Assignment 1

INSE 6150: Security Evaluation Methodologies

Due: **February 8**. Hand in during class.

*Assignments are to be completed individually. Any reference to external material should be cited. Each student has available one slip day for use on one, and only one, assignment of his/her choosing. Using the slip day allows the assignment to be submitted at noon on the **Friday** that follows the due date without penalty (in this case, assignments must be placed in my mailbox in EV 7.640). Late assignments will not otherwise be accepted (exceptions made for medical certificates).*

Evaluation Framework (10 marks)

In this assignment, you will develop your own evaluation framework (like the one from the first lecture on password alternatives but for a different topic of your choosing). Refer to the academic paper to see the level of detail required for a formal written evaluation:

http://www.cl.cam.ac.uk/techreports/UCAM-CL-TR-817.pdf

Some other examples to help you:

http://cacr.uwaterloo.ca/techreports/2015/cacr2015-02.pdf
http://users.encs.concordia.ca/~clark/papers/2013_sp.pdf
http://users.encs.concordia.ca/~clark/papers/2015_usec.pdf

As a first step, choose your own new topic where there is some security aspect and there are at least 5 competing solutions. The topic is wide open and can be anything. Give a lot of consideration to choosing a good topic.

Once you have a topic, come up with a comprehensive list of criteria for comparing the solutions. The criteria for your topic should be unique to your topic (i.e., likely different from the criteria in the passwords example). If your list is too large, choose a more narrow topic. You should have at minimum 3 security (security or privacy) criteria and 3 non-security (functionality, usability, or deployability) criteria.

Complete an evaluation and write up an explanation, maximum 6 pages (including the chart). For each criteria, you should clearly define what the criteria means and what it means to receive each score for each criteria. For each solution, you should give a quick explanation (focus on how it differs from the other solutions) and give a thorough explanation of why it receive each grade it received for each criteria.

You will be graded on not only performing a thorough evaluation, but also on selecting a comprehensive set of requirements, selecting a representative list of solutions, and selecting solutions that are truly alternatives to each other. Finally, try and choose a topic that is interesting and useful.

If you are having difficulty selecting a topic, thumb through the proceedings of a security conference to see the types of things being explored in the research literature: *IEEE Symposium on Security & Privacy*, *USENIX Security*, *ACM CCS*, and *NDSS* are good places to start.

Topics that intersect with passwords (e.g., biometrics, etc.) are not eligible for this assignment.