

Homework 1: Rational Paranoia

This homework is due **Tuesday, January 31 at 6 p.m.** and counts for 5% of your course grade. Late submissions will be penalized by 10% plus an additional 10% every 5 hours until received. Late work will not be accepted after 24 hours past the deadline. If you have a conflict due to travel, interviews, etc., please plan accordingly and turn in your homework early.

We encourage you to discuss the problems and your general approach with other students in the class. However, the answers you turn in must be your own original work, and you are bound by the Honor Code. Solutions should be submitted electronically via Moodle in plain text format (as in, a file readable by cat (not .docx, not .rtf, not .pdf)) by completing the template on page 2 below.

For each scenario below, imagine that you are in charge of security.
Apply the security mindset to answer these questions:

What assets are important for you to protect?

What security threats will you choose to defend against?

What countermeasures can you justify, in terms of costs and benefits?

Answer each of the above in the form of a bulleted list, with brief justifications or explanations as necessary. State any critical assumptions you decide to make. Your grade will be based on the thoroughness, realism, and thoughtfulness of your analysis.

1–3. Pick **three** of the following scenarios. (If you answer more, we'll drop the highest score!)

- (a) You are developing and deploying a self-checkout system for King Soopers.
- (b) You oversee the football stadium at a PAC-12 university.
- (c) You are the program manager in charge of keeping Ralphie the Buffalo.
- (d) As director of the NSA, you set procedures for hiring new employees.
- (e) You are grading homework submissions for a class of 50+ students.
- (f) As head of the TSA, you set the rules for screening passengers at airport checkpoints.

4. Choose another scenario from everyday life that we haven't discussed in class.
Your choice may be directly related to computer security, but it doesn't have to be.



Submission Template

2

1. {Checkout|Stadium|Ralphie|NSA|Grading|TSA} Scenario

Assumptions:

explain_your_assumptions

Assets:

- *Asset - brief_explanation*
- *Asset - brief_explanation*
- ...

Threats:

- *Threat - brief_explanation*
- *Threat - brief_explanation*
- ...

Countermeasures:

- *Countermeasure - brief_justification*
- *Countermeasure - brief_justification*
- ...

2. {Checkout|Stadium|Ralphie|NSA|Grading|TSA} Scenario

...

3. {Checkout|Stadium|Ralphie|NSA|Grading|TSA} Scenario

...

4. Original Scenario

explain_your_scenario_and_assumptions

Assets:

...

Threats:

...

Countermeasures:

...