What You Need to Know About InfoSec and Why You Should Care

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infosec is a very broad discipline

TL;DR

Minimizing Risk

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to support the success of the organization’s mission

What is “Risk”?

Risk is the intersection of assets, threats, and vulnerabilities

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the probability for a threat to occur X the impact of it occurring

Asset

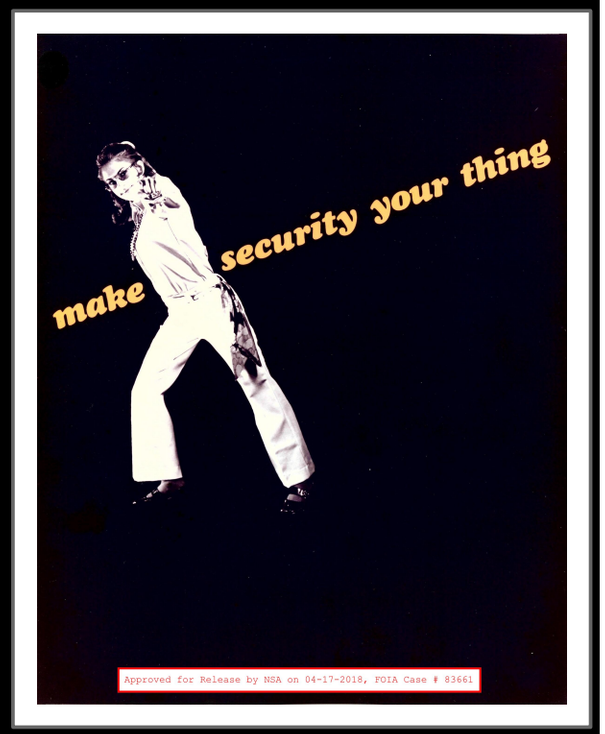
- People
- Property
- Information/Data
- An asset is what we are trying to protect

Threat

- Anything that that represents a potential danger to an asset, whether deliberately or by accident
- A threat is what we're trying to protect against
- *Threat Agent* is a group or individual who exploits a vulnerability to manifest or cause a threat to occur

Vulnerability

- Weakness or holes/ gaps in security procedures or program that can be exploited by a threat to affect assets



What is “Risk”?

- Asset = You
- Threat = Rain
- Vulnerability = Hole in your umbrella
- Risk = you getting wet

What is “Risk”?

The potential for loss, damage or destruction of
an asset(s) as a result of a threat exploiting a vulnerability
multiplied by the impact of the threat occurring

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minimizing risk therefore includes reducing any of the variables

Higher Education Assets

- Network bandwidth and availability
- Computing power
- SEO reputation
- Brand and reputation
- Social Media accounts

Higher Education Assets

- Personally Identifiable Information (PII) / Sensitive Personal Information (SPI)
- Protected Health Information (PHI)
- Confidential Intellectual Property
- Export Controlled Data
- National Security Interest (NSI)

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Export data - Information or technology deemed to be sensitive to national security or economic interests and subject to federal export control regulations as promulgated by the U.S. Departments of State and Commerce.

By working in HigherEd, and on the web, we collectively are all stewards of our institution’s assets. We all share a responsibility in their safe-keeping

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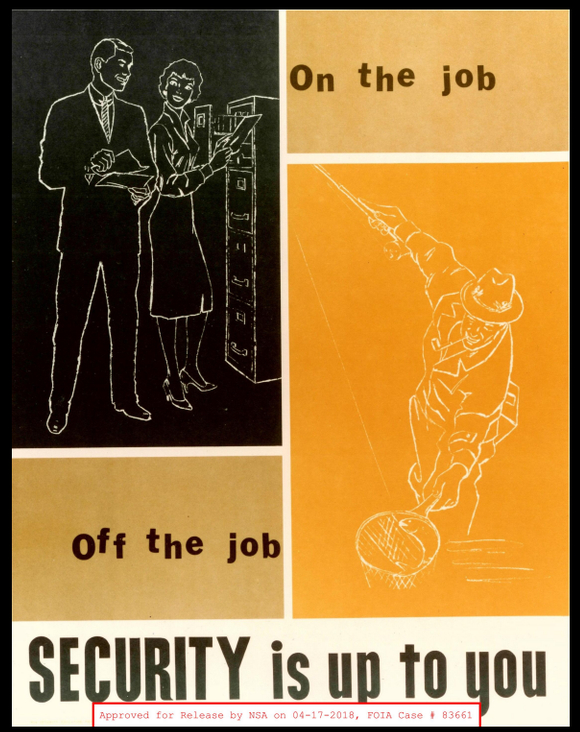
Know Your Assets

- You can’t protect what you don’t know you have
- Know your assets intimately



Mention data/information and systems

with enough time, there’s a good chance they might succeed
we have to succeed 100% of the time, but an attacker only has to succeed once

Minimize the Attack Surface

- The sum of all paths for data/commands into and out of the application
- Plus all of the code that protects those paths
- Plus all of the data used in the application
- Plus all of the code that protects this data

What is “Attack Surface”?

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also demonstrating Defense-in-depth

Principle of Least Privilege

- Grant necessary permissions required to perform the intended activities
- For a limited time
- But with the *minimum* rights required for the task(s)
- Removing permissions when no longer needed

Doing so ensures the user/service is unable to perform actions they are not authorized to perform or access data they are not authorized to access

Limits the effects of changes to the area in which they're made

e.g. limit user roles in systems

Be Paranoid

~~Jessica~~ Paul, your paranoia is exhausting

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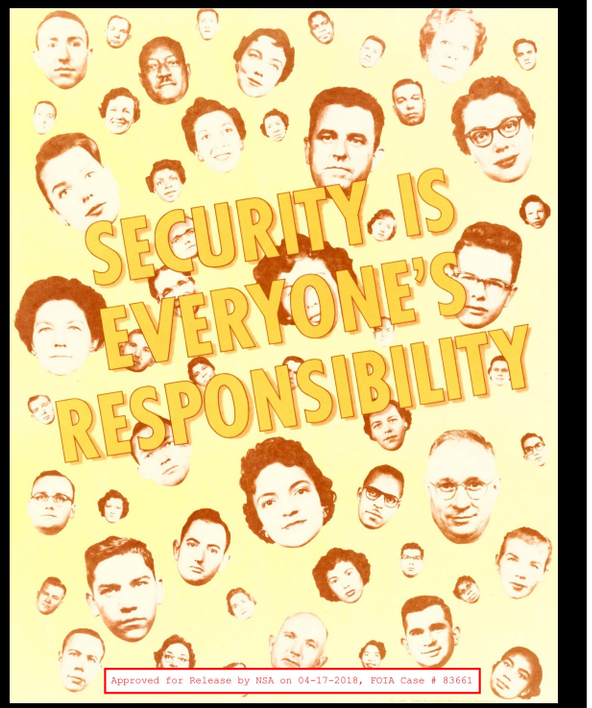
Security teams always say “no”

Ok, How About: “Be Skeptical”

- *Treat all third party code/ data as tainted and hostile*
- Humans remain the weakest link in the InfoSec armor



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Third party code more than likely have differing security policies and posture than you

Security is a continual process;
you're never "finished"

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New threats emerge, new vulnerabilities are discovered

Your Challenge

Always be thinking in terms of how you can reduce risk

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