

Cybersecurity Principles and GenCyberCoin

Vitaly Ford

Assistant Professor

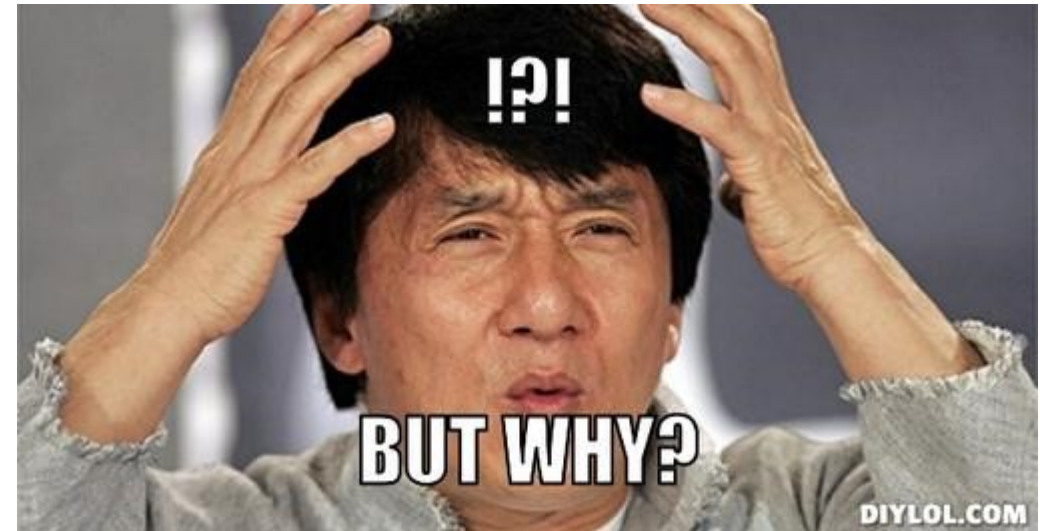
Computer Science and Math Department

Arcadia University, Glenside, PA



Why Principles?

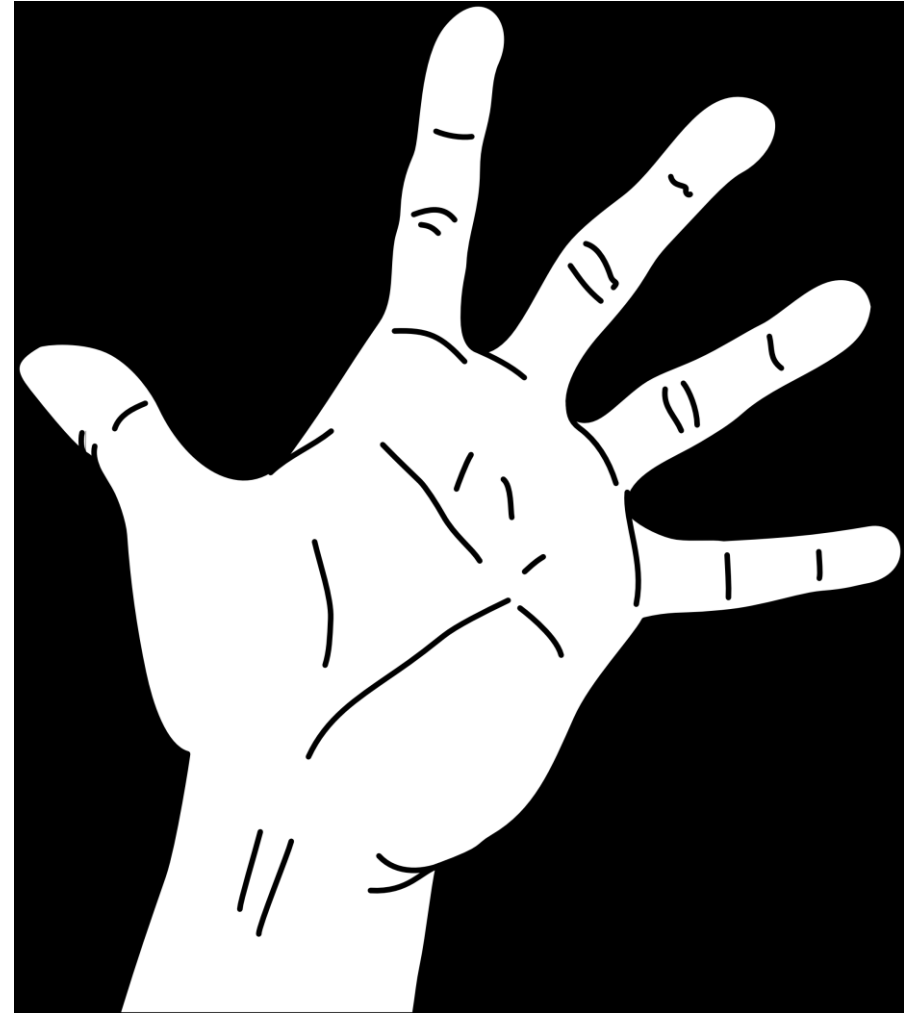
- Principles help us define what is true
- Principles help us apply what is true to the unknown situations
- Principles are a guide
- Not all principles are correct and they may change overtime



GenCyber Principles

- Defense in Depth
- Confidentiality
- Integrity
- Availability
- Keep It Simple
- Think Like an Adversary

CIA Model



Defense in Depth

Defense in Depth



Defense in Depth



Defense in Depth



Defense in Depth



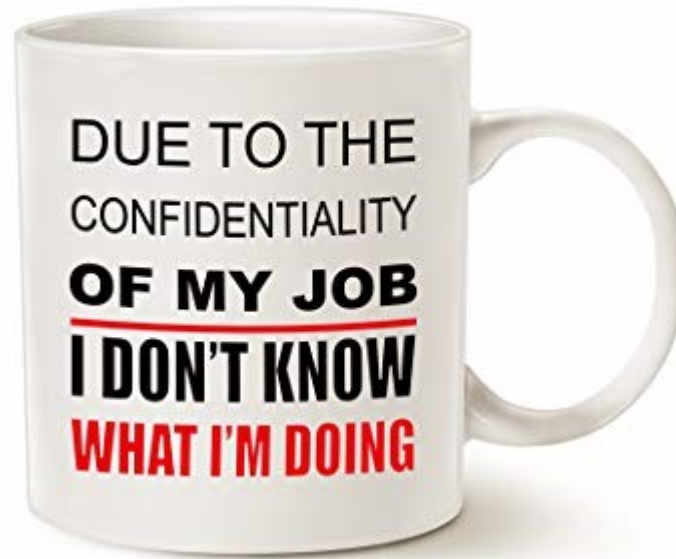
Defense in Depth



Confidentiality

Confidentiality

- Information that is not disclosed to unauthorized individuals/entities



Integrity

Integrity (information)

- Accurate and complete information
- Trustworthy information
 - You know who it came from
 - You are sure that it has not been changed by anyone else



Availability

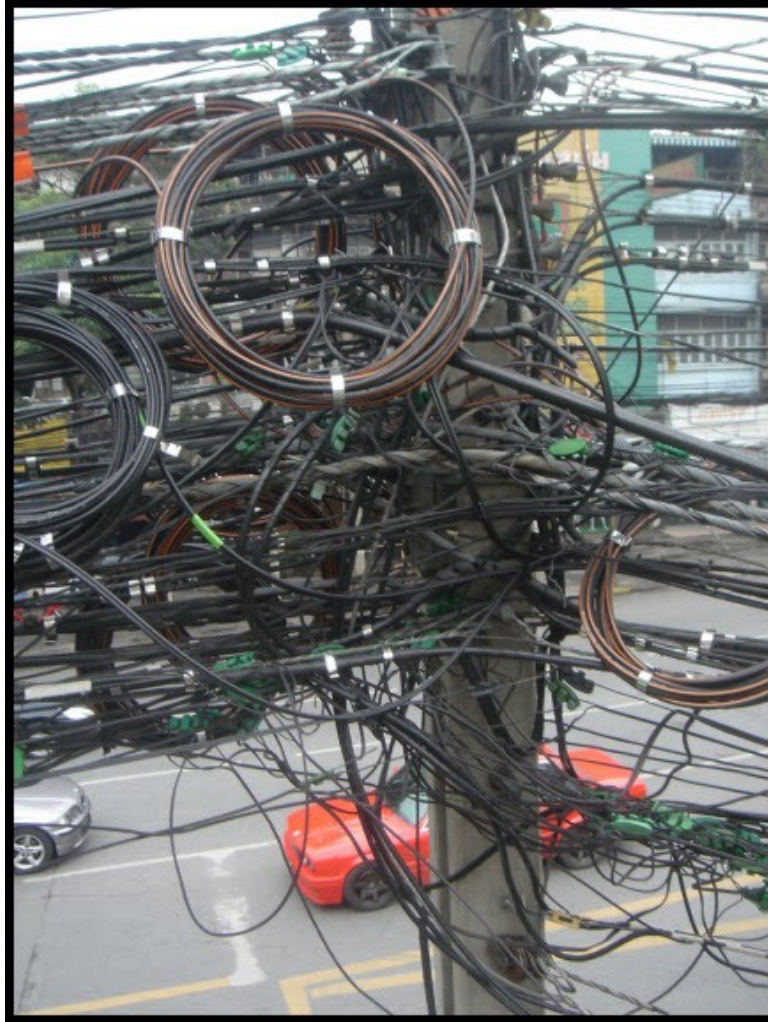
Availability

- Information is available to authorized users



Keep It Simple

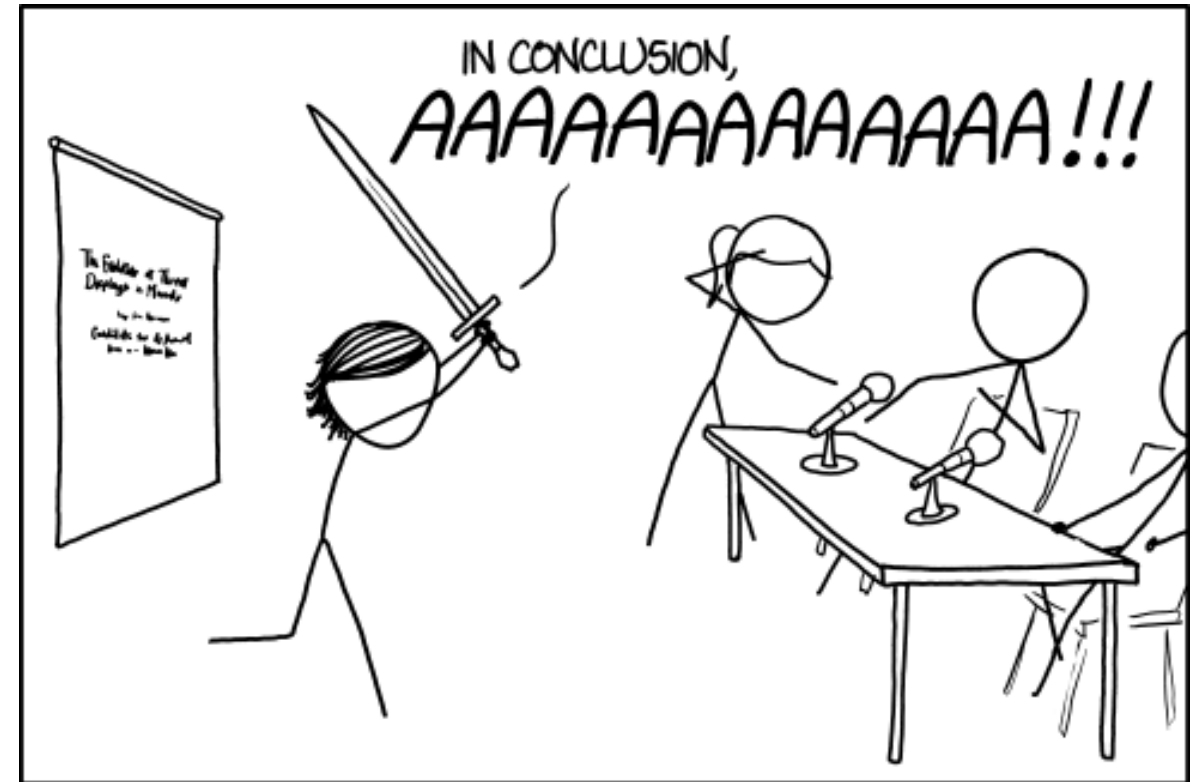
Keep It Simple



Think Like an Adversary

Think Like an Adversary

- Anticipate the actions of the attackers
- Build security measures based on what attackers can do



THE BEST THESIS DEFENSE IS A GOOD THESIS OFFENSE.

GenCyberCoin Time

<https://github.com/vitalyford/gencybercoin>

<https://gencybercoin.tk>