

CS3460 Computer Security

Preface of Pfleeger - 6th Edition

gihan@uom.lk

0777761626

Security of your Devices

- Tablets,
- Phones,
- TVs
- Watches,
- Exercise monitors,
- Home security stations,
- even washers and dryers

All may have security issues.

Security of Computer Systems

- Retailers suffer massive losses of customer data
- In September 2022, Facebook announced the compromise of login information for as many as 1 million users

On one hand,

- people want the convenience and benefits that added connectivity brings,

On the other hand

- people are worried about, and some are seriously harmed by, the impact of such incidents.
- Computer security brings these two threads together as technology races forward with smart products whose designers often omit the basic controls that can prevent or limit catastrophes.

Emergency Broadcast

<https://www.youtube.com/watch?v=Meo79tM13NE>

Computer Security

- Computer security has been around as a formal field of study since the 1960s
- producing excellent research results that lead to
- a good understanding of threats and how to manage them.
- Every computer professional can learn how such problems arise and how to counter them.

Premise of Computer Security

- **Vulnerabilities** are weaknesses in products, systems, protocols, algorithms, programs, interfaces, and designs.
- A **threat** is a condition that could exercise a vulnerability to unwelcome effect.
- An **incident** occurs when a threat exploits a vulnerability, causing **harm**.
- Finally, people add **controls** or countermeasures to prevent, deflect, diminish, detect, diagnose, and respond to threats.
- All of computer security is built from that ***simple framework***.
- **Without a vulnerability, threat is not something to be worried about.** When the vulnerability is there, need to get steps to block the threat or remove the vulnerability.

Two Key Aspects of Computer Security

- how bad things can happen and
- how we can protect our data, activities, and selves.