Introduction to Security
Cyberspace, Cybercrime and Cybersecurity
OVERVIEW

- Brainstorming
- Definition Security
- Security Features
- Concept of Cyberspace
- Concept of Cybercrime
- Concept of Cybersecurity
- The way forward
Brainstorming
Brainstorming

What is Security?

Security according to two boys of 10 years old
Brainstorming

What is Security?

Security According to Junior High School ICT teacher
Brainstorming

What is Security?
Definition Security
There is no clear cut definition
Security is a process, not an end state.
Security is the process of maintaining an acceptable level of perceived risk.
No organization can be considered "secure" for any time beyond the last verification of adherence to its security policy.

*If your manager asks, "Are we secure?"

you should answer, "Let me check."

*If he or she asks, "Will we be secure tomorrow?"

"you should answer, "I don't know."

Such honesty will not be popular, but this mind-set will produce greater success for the organization in the long run.
Security Features
Security has three features
Confidentiality

Confidentiality is roughly equivalent to privacy. Measures undertaken to ensure confidentiality are designed to prevent sensitive information from reaching the wrong people, while making sure that the right people can in fact get it:

Confidentiality

Assurance that information is shared only among authorized persons or organizations.
Security Features

**Integrity.**

Assurance that the information is authentic and complete.

**Integrity**

In information security, data integrity means maintaining and assuring the accuracy and consistency of data over its entire life-cycle.
Availability

Assurance that the systems responsible for delivering, storing and processing information are accessible when needed, by those who need them.

Availability

Availability of information refers to ensuring that authorized parties are able to access the information when needed.
Concept of Cyberspace
Cyberspace

Cyberspace is "the environment in which communication over computer networks occurs."

And almost everybody in one way or the other is connected to it.
Ladies in the market are connected to is to run their businesses
Shepherds are connected to locate their cattle
Hunters are connected to it to locate their prey
Our friend, the farmer is connected to it and “Facebooking” in the coconut tree.
Our friends in the remote areas are also connected to it
Huum! isn’t amazing?
They are also connected.

Concept of Cyberspace
Concept of Cyberspace

On a more serious note, are connected

Government

Judiciary

Law makers
Concept of Cyberspace

Militaries
Concept of Cyberspace

- Banks
- Transportation Sectors
- Health Sectors
Concept of Cyberspace
Concept of Cybercrime
Cyber Crime

Computer crime, or cybercrime, is any crime that involves a computer and a network.
The computer may have been used in the commission of a crime, or it may be the target.
Concept of Cybercrime

Kevin Mitnick

Tsutomu Shimomura
Commonwealth Bank, Australia - March 2011:-
Automatic teller machines (ATMs) spat out
tens of thousands of free dollars in Sydney
Tuesday after a computer glitch turned into a
nightmare for the Commonwealth Bank. IT
Security Believe that it is a the consequence of
hacking.
Concept of Cybercrime

Underground Economy

Digital Underground
Concept of Cybercrime
Concept of Cybercrime

Phishing
Hacktivism

WORMS AGAINST NUCLEAR KILLERS

Your System Has Been Officially WANKed

You talk of times of peace for all, and then prepare for war.

We see you.
But you don't see us.

We are everyone.
We are everywhere.
Concept of Cybercrime

Cyberwar: Estonia Case

The statue that sparked the first cyber war
Tuuli Aug, an editor of the daily newspaper "Eesti Paevaleht," stated the following:

"I felt the country was under attack by an invisible enemy. . . . It was extremely frightening and uncontrollable because we are used to having Internet all the time and then suddenly it wasn't around anymore, . . . You couldn't get information; you couldn't do your job. You couldn't reach the bank; you couldn't check the bus schedule anymore. It was just confusing and frightening, but we didn't realize it was a war because nobody had seen anything like that before".
Concept of Cybercrime

Stuxnet
Concept of Cybersecurity

The threat is real
Concept of Cybersecurity
Concept of Cybersecurity

Tentative Definitions

Cyber security, also referred to as information technology security, focuses on protecting computers, networks, programs and data from unintended or unauthorized access, change or destruction.

University of Maryland University College

The state of being protected against the criminal or unauthorized use of electronic data, or the measures taken to achieve this.

‘some people have argued that the threat to cybersecurity has been somewhat inflated’

Oxford Dictionary
Concept of Cybersecurity

ITU-T X.1205 Definition

- Cybersecurity is the collection of tools, policies, security concepts, security safeguards, guidelines, risk management approaches, actions, training, best practices, assurance and technologies that can be used to protect the cyber environment and organization and user’s assets. Organization and user’s assets include connected computing devices, personnel, infrastructure, applications, services, telecommunications systems, and the totality of transmitted and/or stored information in the cyber environment.

- Cybersecurity strives to ensure the attainment and maintenance of the security properties of the organization and user’s assets against relevant security risks in the cyber environment.

- The general security objectives comprise the following:
  - Availability
  - Integrity, which may include authenticity and non-repudiation
  - Confidentiality
Assignment and discussion
Assignment

*Based in the realities of your organization, rank the three features of security with respect to your information system.*
The way forward

- ICT is a single point of failure to Businesses.
- IS Security is Achilles heels of ICT
- Your security depends on mine and mine depends on yours,
- Let us come together and protect our cyberspace is creating and managing a CSIRT

HOW?

CSIRT
Thank you