

Girls in ICT Day Virtual Event
Access and Safety

April 28, 2022
 10 AM- 12PM (EST)

Open to all, join us online!
<https://tinyurl.com/GirlsInICTDayRoar>





Session: Real World Cybersecurity Concepts

Facilitator: Dr. Koffka Khan

Learning Objectives:

- Define Cybersecurity and give an example of real life uses.
- Explain the CIA triad.
- Give examples of real life cybersecurity use cases.

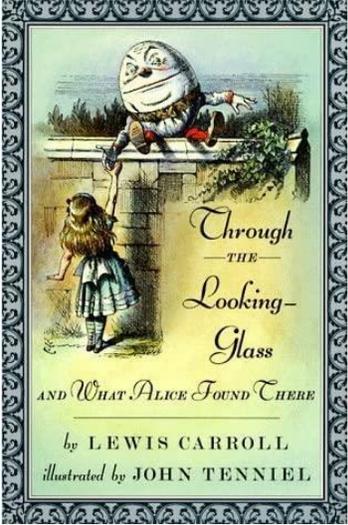


Quote

A boat, beneath a sunny sky
 Lingering onward dreamily
 In an evening of July -----
 Children three that nestle near,
 Eager eye and willing ear, ...

- Lewis Carroll, Through the Looking Glass

Can you guess the secret in the Quote?



1. What is Cybersecurity?

cybersecurity - "the state of being protected against the criminal use of electronic data, or the measures taken to achieve this." It can include the following functions:



- (A) Cryptography.
- (B) Threat and vulnerability assessment, including risk management.
- (C) Web security.
- (D) Cybersecurity training, education, and management.
- (E) Computer forensics.

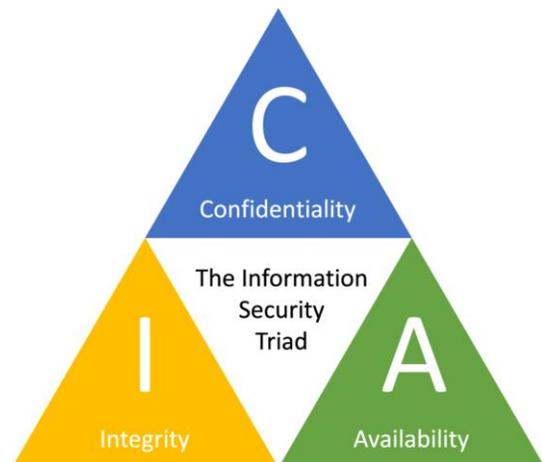
2. The CIA triad

(1) **cybersecurity** = security of cyberspace.

(2) **cyberspace** = information systems and networks - the Internet!

(1) + (2) = (3) => Therefore, **cybersecurity** = security over the Internet with the goal of protecting resources.

(4) Security can be defined in terms of the **Confidentiality, Integrity, and Availability (CIA)** triad.



(3) + (4) = (5) => Therefore, **cybersecurity** = availability, integrity and confidentiality over the Internet in the face of attacks with the goal of protecting resources.

3. The Cast of Characters

Alice and Bob are the good guys



Trudy is the bad "guy" →



4. Categorize these WhatsApp security breaches using the CIA triad

- In a major data breach, numbers of WhatsApp web users found on Google search 15 Jan 2021
 - The WhatsApp on Desktop (Web) application allegedly exposes personal mobile numbers on Google Search.
- WhatsApp Fined \$266 Million Over Data Transparency Breaches 2 Sept 2021
 - Facebook Inc.'s WhatsApp was ordered to pay a 225 million-euro (\$266 million) penalty for failing to be transparent about how it handled personal information.
- WhatsApp users urged to update app after detecting serious security breach 9 Dec 2021
 - The security breach involves unauthorized access to computer data, applications, networks or devices and it results in information being accessed without authorization.
- WhatsApp users are being warned to change their passwords after a recent security breach 10 Jan 2022
 - Users could have been victims of "phishing" attack, which aims to steal information such as passwords by providing a fake login page.



5. Safe Practices

- Use stronger passwords (Password Generator) with a password manager
 - A password manager app, like Dashlane, will solve this problem by managing, organizing, and encrypting all of your passwords and helping you keep tabs on the strength of those passwords.
- Use Two-Factor Authentication
 - 2FA requires adding an additional element for validation, like your fingerprint, a PIN number, a security question, or a hardware device.
 - Use an authenticator app, like Authy or Google Authenticator.
- Keep your personal data offline
 - Women are already cautious about what they post online, but a service called Safe Shepherd proactively removes your personal information from the Internet and marketing databases, preventing spam, unwanted marketing calls, identity theft, and cyberstalking.
- Turn your phone into your bodyguard
 - If you've even felt afraid to walk around alone at night or somewhere unfamiliar, an app called Noonlight (formerly known as SafeTrek) is useful.
 - It's a mobile app that will call the police and send them to your exact location in the event of an emergency.
 - You could also try apps like Guardly, Circle of 6, MyForce, Panic Guard or other panic button apps.
- Look for the green lock icon
 - Before online shopping check if the site address shows it is https or carries an image of a lock.
 - Be careful at public Wi-Fi hotspots. Use authentic websites.



Summary

In this lesson, you should have learned how to:

- Define Cybersecurity
- Explain the components of the CIA triad
- Identify cybersecurity safe practices