

**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.

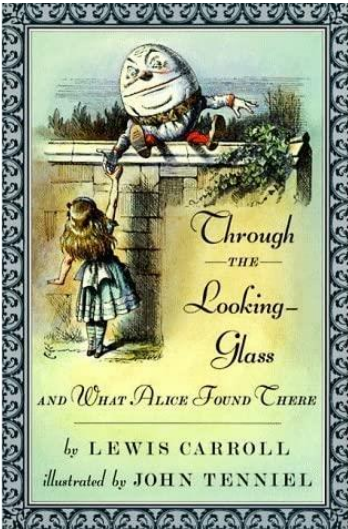


Quote

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.

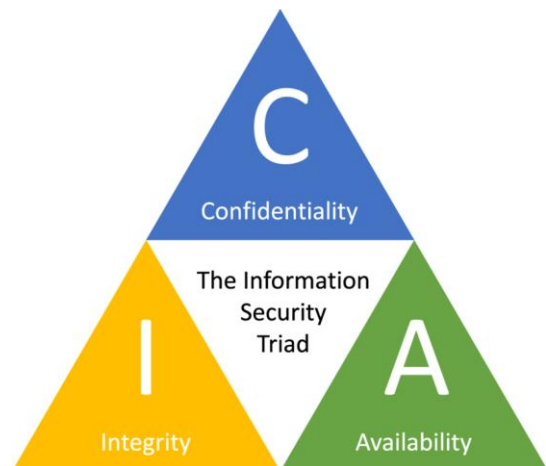
## 2. The CIA triad

(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