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CYSE 200T

CIA Triad & Authentication and Authorization

The some of the main components of cybersecurity are the process of Authentication and Authorization, as well as the CIA Triad. Authentication is when the system is trying to figure out who is trying to access it. This can be done through various methods such as 2-factor authentication, passwords, biometrics, passkeys, pin codes, employee ID cards, etc. An example of this would be an employee trying to access the company system with his credentials provided by the job. The system would ask for them to identify themselves before giving them access. Authorization is a little bit different than Authentication. Authorization is the level of access that the Authenticated user has in the system. It can also be described as what the Authenticated user is allowed to do in the system. An example of this could be how user group permissions are set on Linux system, and they determine what the user can do. The CIA Triad stands for Confidentiality, Integrity, and Availability. Confidentiality makes sure that the important data on the system can only be accessed by the Authorized user. At a company this can start with a set of policies on who is able to access the sensitive systems. Integrity means that the important data is safe and protected. An example of this could be strong encryptions, backup systems, or strong firewalls and security measures to protect the data. Availability is to make sure that this data is always able to be accessed by the Authorized user. A good example of this would be a back up system kicking in during a storm to maintain availability to the users. Another good example would be the complete

loss of the system and the data. In this case having a separate back up system would help maintain data availability. Authentication and Authorization, as well as the CIA Triad, are extremely important when talking about protecting and securing data in cybersecurity.

References:

Wesley Chai – What is the CIA Triad?

https://www.techtarget.com/whatis/definition/Confidentiality-integrity-and-availability-CIA