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### **The CIA Triad**

The CIA triad is a model used in cybersecurity that consists of confidentiality, integrity, and availability. It helps ensure sensitive information is accessed by only the right individuals and is used to ensure that data stays secure.

#### **Confidentiality**

Confidentiality is used to protect sensitive data from those who shouldn't have their hands on it. Some methods that are used include password protection, encryption, and two-factor authentication systems.

#### **Integrity**

Integrity is in place to make sure that no data has been altered in any way, this can be done by keeping active reports of data and having systems in place to detect any changes in data that is stored, whether that's people monitoring the data or having software run to automatically report any changes.

#### **Availability**

Availability means making sure the data that needs to be is available to the right people. This can be done by keeping a log on who can access certain data, ensuring that all servers remain up, and storing backups in case access is lost.

## **Authentication VS Authorization**

Authentication is the process used to check the identity of who you are. This would include something like a login using a username and password, facial recognition, or a fingerprint scan. Authorization on the other hand refers to determining what the authenticated user is allowed to do.

### **Real World Example**

An example of this would be right here at ODU with our portal login system. You first need to log in with a username and password and go through a two-factor authentication, but you are not authorized to make any changes to your account such as changing grades, accessing confidential records, or changing enrollment status.

### **Conclusion**

In conclusion, the three components of the CIA triad are crucial to not only protect sensitive information but also manage who has access to data and what they're able to do with that information.

Works Cited

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