**CIS-481: Introduction to Information Security**

**InfoSec Chapter Exercise #1**

**Team: Project Team 11**

**Names: Sohal Patel, Erika Maglasang, Nathan Moran, Gabriel Rolink, and Tyler Samuelson**

**Logistics**

1. Get together with other students on your assigned team in person and virtually.
2. Discuss and complete this assignment in a collaborative manner. Don’t just assign different problems to each teammate as that defeats the purpose of team-based learning.
3. Choose a scribe to prepare a final document to submit via Blackboard for grading, changing the file name provided to denote the number of your assigned **IQ Team**.

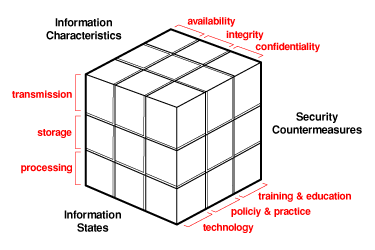
**Problem 1**

The CIA triad presents three essential characteristics of information that must be protected. However, most agree that these three characteristics are not the only ones that need to be protected. Other characteristics include authenticity, accuracy, possession, timeliness and utility.   
If you were tasked with expanding it into an information security *rectangle* instead by adding a single additional characteristic of information, which would you choose and why? *(8 points)*

**Answer :-** As per the requirement of the problem, we were asked to expand the information security triangle rather than the given characteristics, than we would add a final characteristic ‘Security of Data’ as the given characteristics authenticity, accuracy, possession, timeliness and utility leads to a simple aspect of ‘Security of Data’ from Cyber Hacking, Data Phishing, Mal-ware, Social Engineering or various Data Stealing hacks. CIA Triad as a software majorly focuses on how actually it can protect the useful or sensitive information of a company from various hacks, so that’s the reason that it should be kept as a major endeavor, as digital firms keep their major and useful data online, so these measures authenticity, accuracy, timeliness are kept to give major reactivity towards various cyber-crimes. Other than security of data, we would add another major characteristic which is known as privacy of data, it is the actual reason that for the conceding use of CIA triad that it secures confidential/ sensitive data of an organization. The privacy and security of data is somehow related to each other. So, these two aspects as a whole should be used in Information Security Triangle additionally.

**Problem 2**

In 1991, John McCumber proposed a model for Information Security that uses a 3-D cube, as below. Describe each of the three dimensions of the McCumber Cube and comment on the interaction of the three specific sub-components in one of the 27 cells within the Cube. *(9 points)*



**Answer**: This 3D Cube of Information Security is induced by John McCumber in 1991 it uses three dimensional shapes that concludes various aspects to be used in **Information Security.**

**Dimension 1; Information Characteristics:**

**Confidentiality:** It leads to privacy of data; how actually we can save our data from Cyber Hacking

**Integrity:** Exact and Accurate information can't be tempered as con-artists can change the information utilizing digital hacking or by sending malware through Email joins

**Availability:** It alludes to accessibility of information for permitted Authorities of an association at whatever point or any place it is likely for them to get to the information

**Dimension 2; Security Counter Measures:**

**Training and Education:** Proper training and education should be provided in order to generate proper awareness on information and data security.

**Policy and Practice:** Policy should be induced when Information Security Measures are to be concluded and proper practice after training leads to integrity.

**Technology:** The Data Security should be made viable to all types of technology changes.

**Dimension 3; Information States:**

**Transmission: T**he Data should be able to transmit from one location to another, whenever it is likely to.

**Storage:** Data should be stored in order to excruciate proper usage of Data

**Processing:** It leads to manipulation of data to convert it into useful information.

These sub-components used in three-dimensional cube are interrelated to each other to form a better data security system.

**Problem 3**

How can the practice of information security be described as both an art and a science? How does security as a social science influence its practice? *(8 points)*

**Answer**: The practice of Information Security is hence an art and a science too as Excessively, the order for information security is essentially to "keep it safe," and individuals frequently consider information security as a lot of clear decisions. This is rather than protection, which is comprehended as a lot of sloppy strategy issues. Be that as it may, information security is, actually, very sloppy itself. Information security is about hazard the board. Information safety efforts can lessen the danger of having an information break, however these measures have costs. These expenses can be money related, yet they likewise can include effectiveness, accommodation, and the very culture of an organization. Because, people assume a key job in information security, this makes information security very confounded. Overseeing human conduct is massively testing. Individuals are difficult to control. They should be instructed. They have to mind. Be that as it may, individuals overlook. They have failures to comprehend the issues at hand. They don't realize what they should realize and don't do what they should do.

There are no rigid guidelines controlling the establishment of different security instruments, nor are there numerous all around acknowledged total arrangements, this is art. Technology can be created by PC researchers and architects Deficiencies on the grounds that the can be fixed this is science, it improvises tasks of any society by providing information security.