
**GAZI UNIVERSITY**

**FACULTY OF ENGINEERING – COMPUTER ENGINEERING**

**171180010 – Cansu AYTEN**

# CENG482 INTRODUCTION TO COMPUTER SECURITY

## HOMEWORK 1

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**1-) Descriptions of data, information, knowledge, security, safety.**

**Data:** Unprocessed pieces of information obtained by various means such as measurement, observation, experiment or counting are called data. Quantitative data is data containing numerical values. Qualitative data, on the other hand, do not contain numerical values. It is data obtained through observation and its precision is open to discussion. In terms of information technology, data is pieces of information that can be stored and transported as bits or signals. Data by themselves are meaningless. They have to go through a number of processes in order to get a meaning. In the field of information technologies, data can be used for certain purposes by changing with some operations (add-removal, etc.). Many data types are available. A few of them are Integer (int), Character (char), Floating Point (float), String (str/text), Boolean (bool), Picture, Sound [1,2,3].

**Information:** In order for the data to become efficient, the structure obtained by applying some operations on it is called information. It can also be summarized as processed data. Unlike data, information is meaningful. With its processing, it acquires meaning and context. The information must be correct and complete [1,4].

**Knowledge:** It is a structure that is uniquely formed as a result of experience, learning, or familiarity gained through past events. As a result of experiences, any information can be shaped depending on how the person understands or interprets it. This ensures that information differs from person to person [4].

**Security**: Taking precautions by putting some restrictions against the dangers that may be created by external sources is called security. In terms of information technologies, security is taking precautions with some analysis or software in order to prevent situations such as theft of digital assets and their malicious use [5,6].

**Safety:** Keeping oneself protected from the dangers that may be encountered is called safety [7].

**2-) What is your policy that you use to protect your privacy in your life?**

Today, there are some behaviors that we need to do to protect devices such as phones, computers, and tablets that contain a lot of important information. The precautions I have taken for these devices in my own life are as follows:

First of all, even if the platform I registered with does not require restrictions such as at least 8 characters, uppercase, lowercase letters, numbers and special characters when choosing a password, I comply with these restrictions when creating a password. Another is not to include easily guessable information such as date of birth when creating a password. Changing the password every few months to keep it different. Not using another platform while registering on a platform. For example, when registering on a gaming platform, I do not register through platforms such as Google or Facebook. This is because the game platform asks for permission for most unnecessary data. Even if I leave that platform, it may cause security problems as it will host my data for a while. Another measure I take is to keep the password of the e-mail address I used while registering for a platform different from the password I created for that platform. Thus, in the event of a password being compromised, it prevents my other accounts from being affected. Not to tell anyone any password created. Not saving passwords in browsers.

One of the measures I take to ensure the security of my mobile device is to create a screen lock. This lock can be in the form of a password, pattern, face recognition, or fingerprint. If the key is to be a pattern, it is necessary to create a difficult pattern. The reason for this is that the pattern of the screen lock can be predicted from the fingerprint on the screen. Examining the source while an application is being downloaded. Not downloading applications from unknown sources. Reviewing the permissions required by an app while it is being downloaded. For example, a calculator app should not have access to contacts. For applications that require GPS access, the GPS should be checked occasionally on the phone and turned off where it is not needed. If the phone is going to be serviced or the owner is going to replace it, all data in it should be deleted.

Not revealing important and confidential information such as e-mail, password, card number, or password while chatting in public places. Likewise, not leaving this information open in such places. Not connecting to the free Wi-Fi networks of places such as cafes and restaurants. Because they can be insecure. Controlling camera and microphone permissions during online calls. Using two-factor authentication for online purchases. Using a virtual keyboard when trying to access a bank account.

Downloading the software from the manufacturer's site while the software is being downloaded to the computer. Other sites are unsafe and can be dangerous. Do not download pirated TV shows, movies, or music. Keeping the computer operating system up to date. The reason for this is that if there is a security vulnerability, it can be fixed with the next update. Having

antivirus software for security on phones and computers. In this way, precautions are taken against the dangers that can be transmitted from the internet.

To protect the device against hard impacts by installing protective glass and protective cases on mobile devices to protect them physically. Exercise caution when keeping liquids around mobile devices and computers.

**3-) What are the factors that make data important?**

One of the factors that make data valuable is the accuracy of the data. When obtaining data from a source, the accuracy of data from the source is expected to be high. The data needed is valuable if it is relevant to the subject and can meet the requirements. Another criterion that makes data important and valuable is that the data is up-to-date. Old data may not see as much value as current data. Another factor is access to data. This can include achieving to data as well as understanding data. Data that can be accessed or understood quickly is valuable. Unknown data can be worthless. It is also important in terms of value that the data is clean and in a size that can meet the requirements. Inconsistent, off-topic, incomplete, or insufficient data may not see much value. Such factors determine the value, that is, the quality of the data. The reason some platforms that contain our personal data are free is that they own our data. Because for their own purposes, some free platforms use our data to make money through advertising. Another factor that makes our personal data valuable for companies is that our personal data makes money in this way [8,9].

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