

Cybersecurity Awareness in Adult Online Learning



Funded by
the European Union

DR. NİMET ÖZGÜL ÜNSAL

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1. Introduction to Cybersecurity and Fundamental Concepts

Cyber,

When searched, the response states:
"The term cyber could not be found."



650.608.052



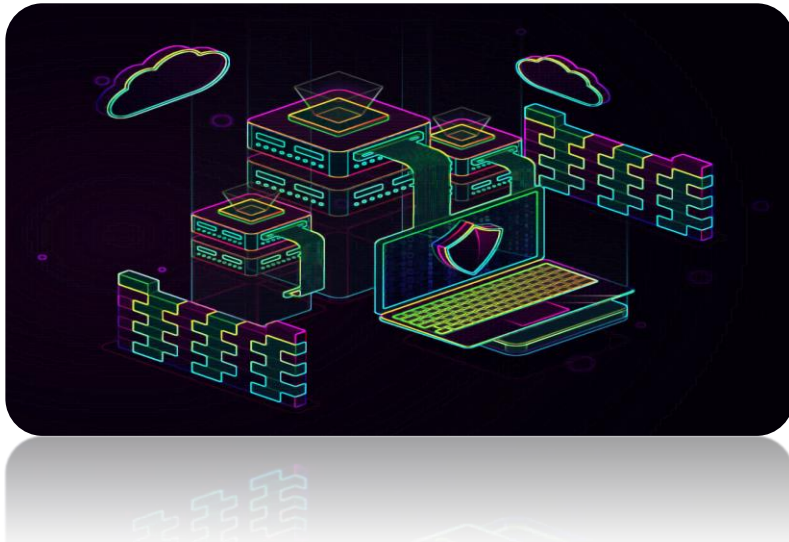
Cybersecurity, as defined by the International Telecommunication Union (ITU), refers to:

"The collection of methods, policies, concepts, guidelines, risk management approaches, activities, trainings, best practices, and technologies used to protect the information assets of institutions, organizations, and users."

1. Introduction to Cybersecurity and Fundamental Concepts

Cyber Asset

A cyber asset refers to tools, processes, documents, plans, documented ideas, data, or information that exist within digital environments.



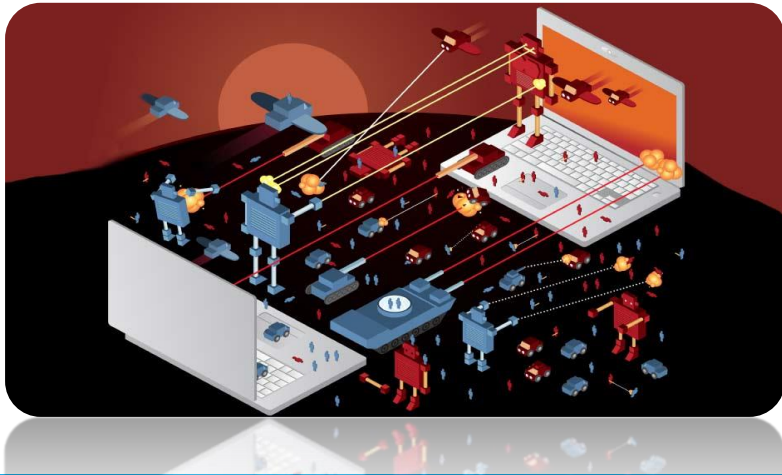
Cyber Incident

A cyber incident is a situation in which cyber assets are affected, compromised, damaged, or subjected to unauthorized access, resulting in various forms of exploitation or manipulation.

1. Introduction to Cybersecurity and Fundamental Concepts

Cyberspace

In the national strategy document, cyberspace is defined as *“the digital environment consisting of information systems spread across the world and outer space, and composed of networks that interconnect these systems or independent information systems.”*



Cyber Warfare

Cyber warfare refers to attacks conducted with the aim of protecting national interests and cyber assets by damaging, disrupting, slowing down, disabling, or seizing the opponent's information technology systems. Such attacks are intended to cause harm to the adversary's digital infrastructure, halt or degrade their services, and secure strategic advantage within the framework of national interests.

1. Introduction to Cybersecurity and Fundamental Concepts

Cyber Espionage

Cyber espionage refers to espionage activities conducted primarily through the use of electronic and digital environments.

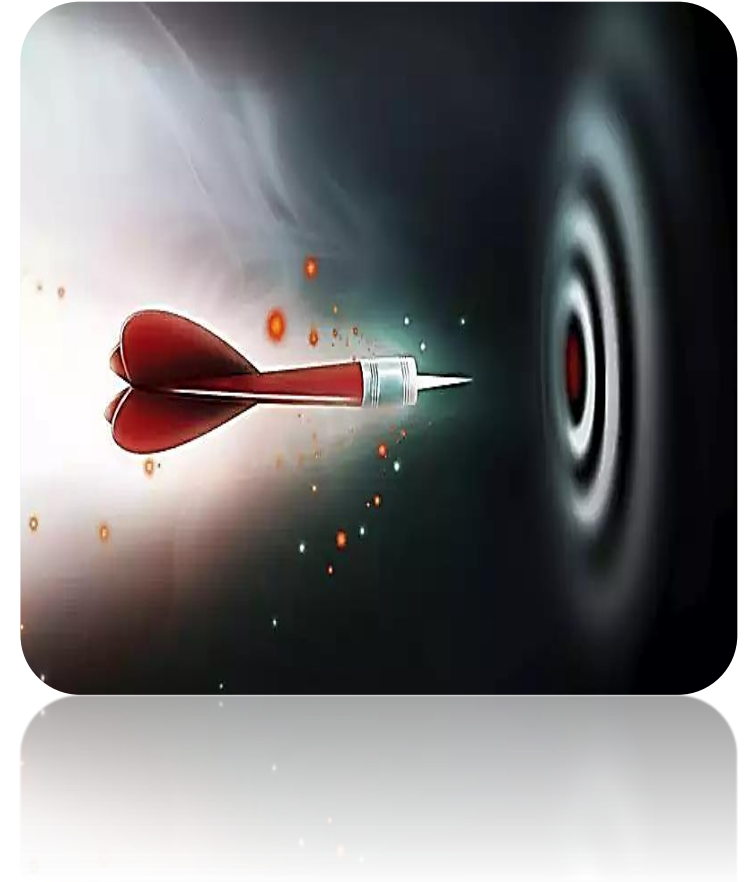


Cyber Weapon

According to NATO, a **cyber weapon** is defined as “a software or a piece of code with offensive capabilities that inflicts harm on the adversary.”

2. The Purpose and Core Objectives of Cybersecurity

- ✓ Digital territories
- ✓ Personal, institutional, or national information assets
- ✓ Legal implications of data
- ✓ Enhancing competitiveness and sustaining corporate reputation



2. The Purpose and Core Objectives of Cybersecurity

To Protect Existing Assets



- ☐ Fraud
- ☐ Espionage
- ☐ Sabotage
- ☐ Destruction
- ☐ Protection against threats and hazards from various sources, such as fire or flood



- ☐ Viruses
- ☐ Spyware
- ☐ Malicious software
- ☐ Advanced Persistent Threat (APT) attacks
- ☐ Cyberattacks
- ☐ Hackers
- ☐ Denial-of-service (DoS) or service disruption attacks

Individuals



Institutions



2. The Purpose and Core Objectives of Cybersecurity

✓ In Cyber Environments;

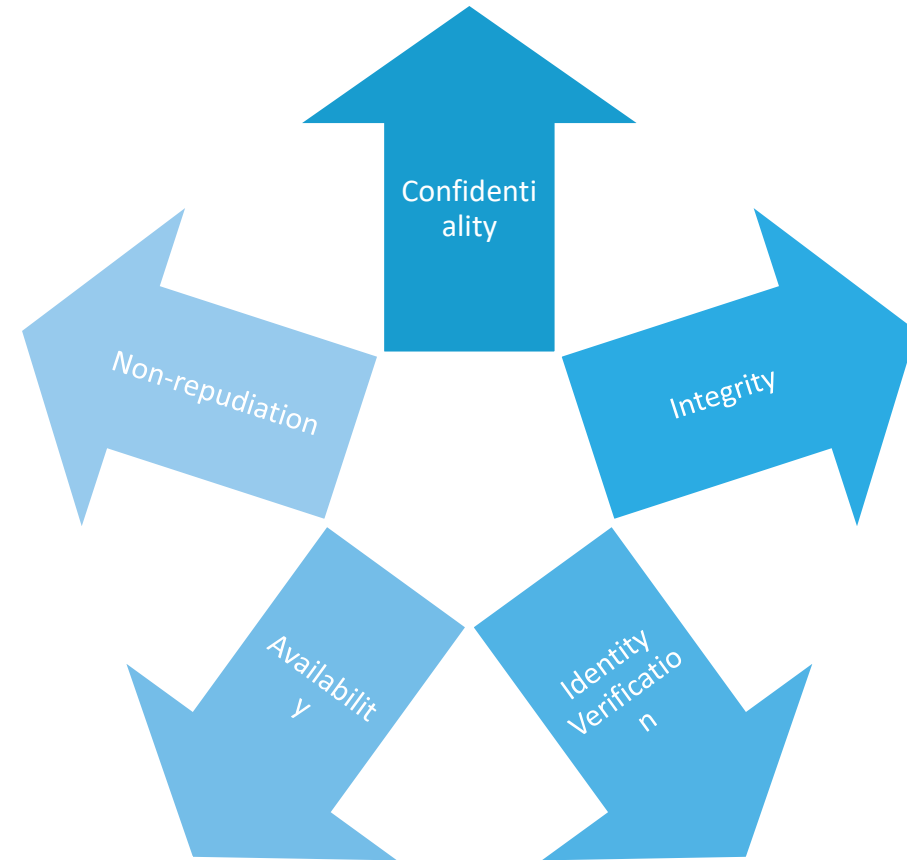


✓ Considering the rapid increase in new approaches, technologies, perspectives, and applications such as **Artificial Intelligence (AI)**, **the Internet of Things (IoT)**, **Big Data**, **Deep Learning**, and **Quantum Computing**, it is evident that new threats and risks will inevitably emerge. Therefore, the need for enhanced cybersecurity and defense mechanisms has become increasingly significant.

3. Confidentiality, Integrity, and Availability

Elements of Cybersecurity

Ensuring a high level of cybersecurity can only be achieved by paying attention to and implementing these essential principles.



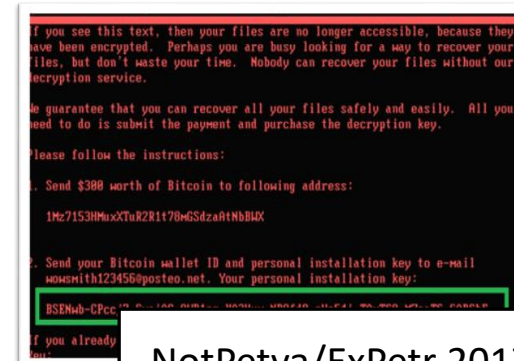
4. Examples of Cyber Attacks Worldwide



Mirai 2016



Estonia – Russia Cyber War



NotPetya/ExPetr 2017

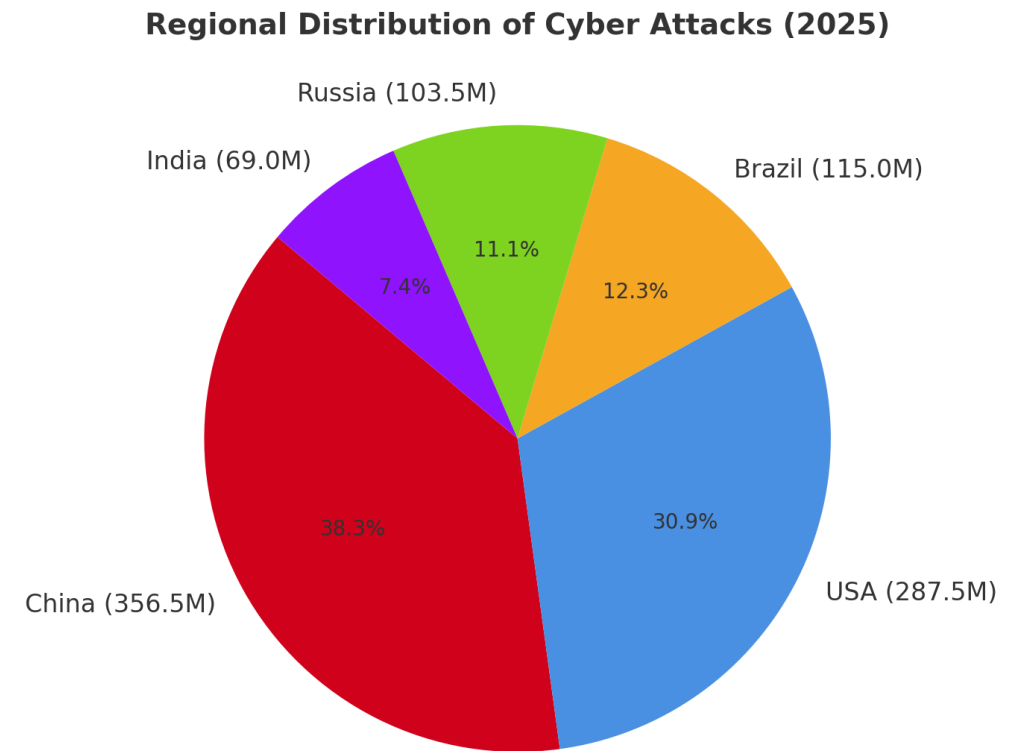
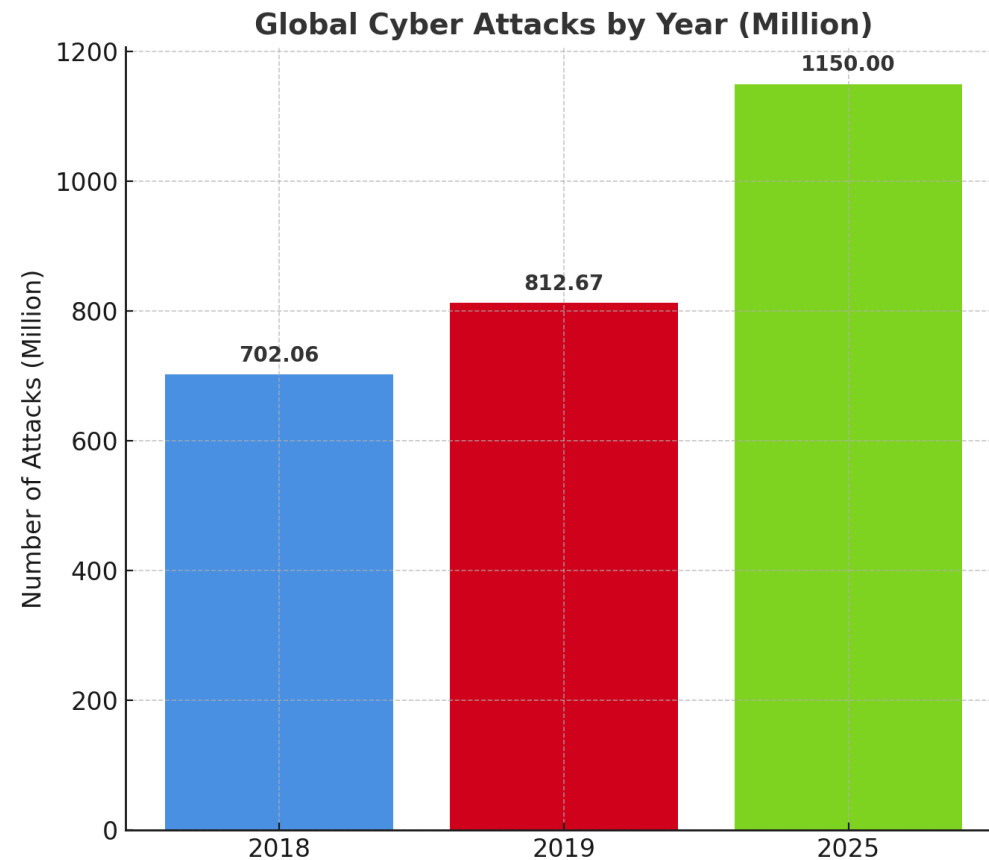


WannaCry (Ransomware) (2017)



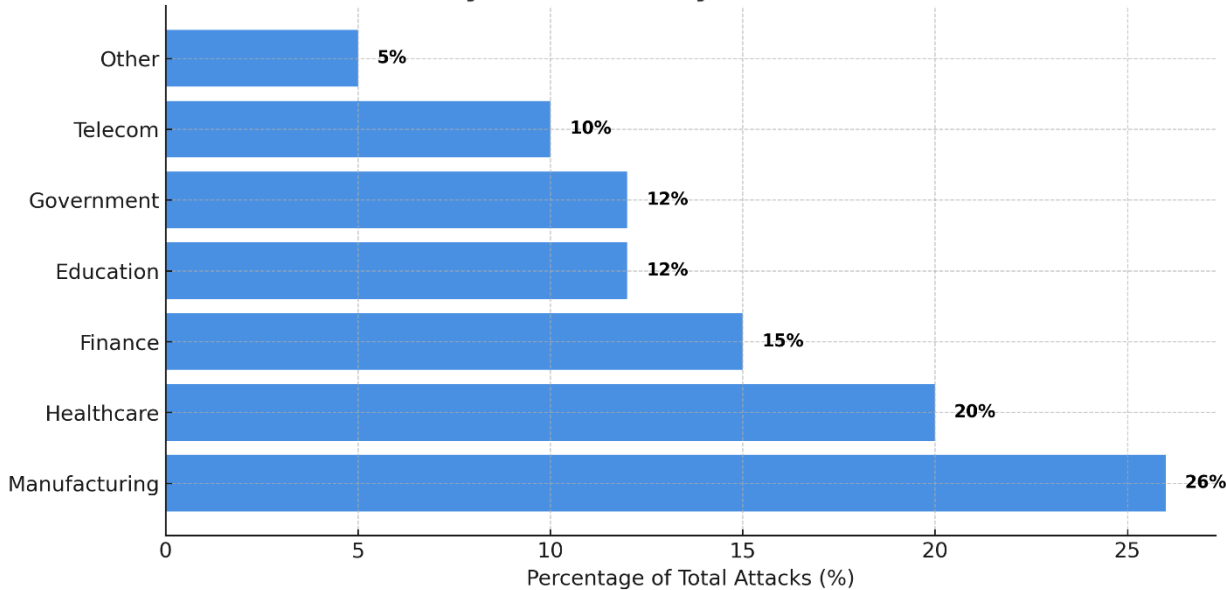
Sony PlayStation Data Breach

4. Examples of Cyber Attacks Worldwide

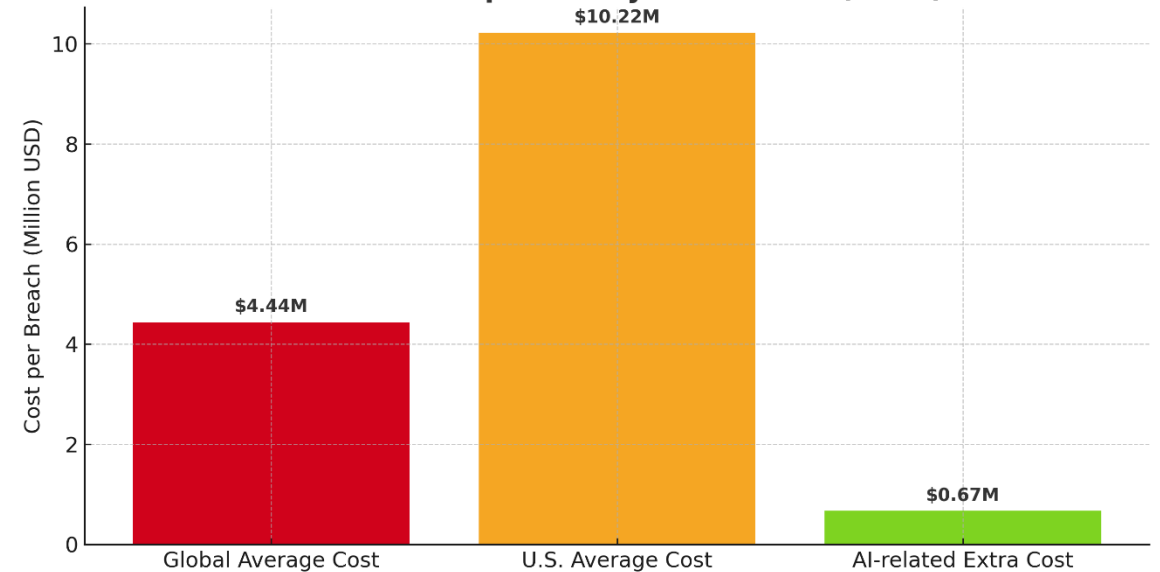


4. Examples of Cyber Attacks Worldwide

Cyber Attacks by Sector (2025)



Financial Impact of Cyber Attacks (2025)

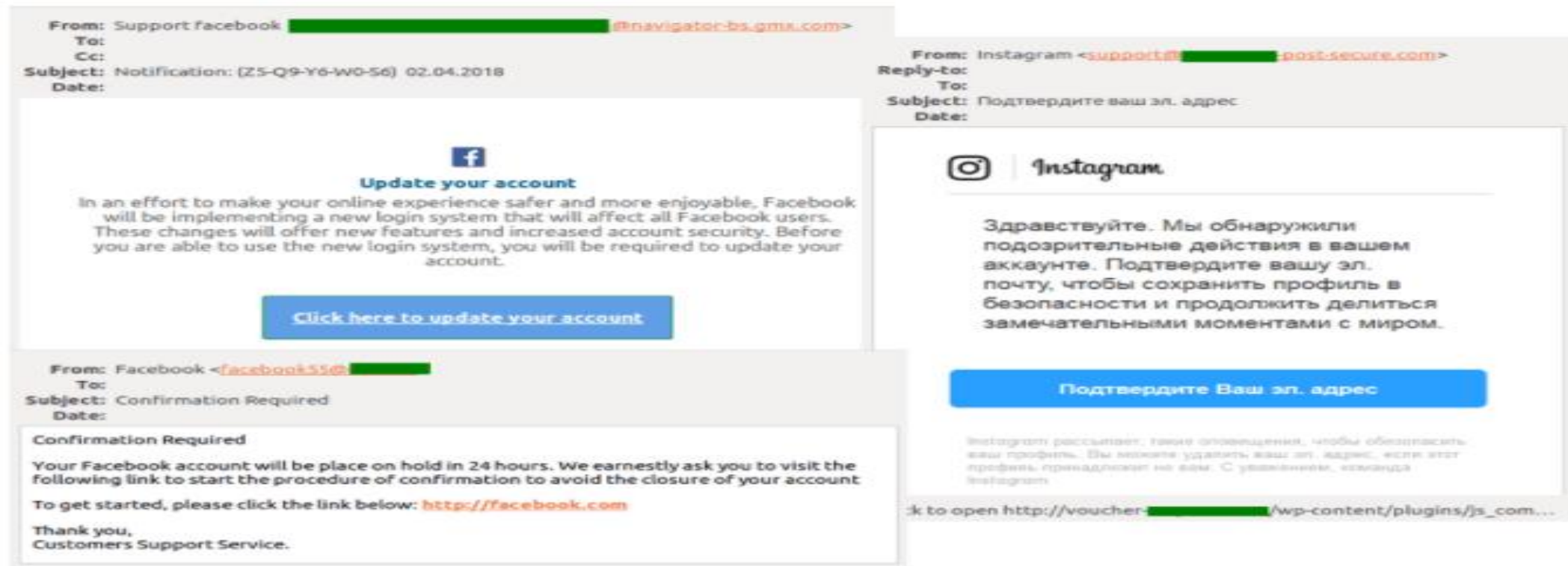


5. E-mail Security



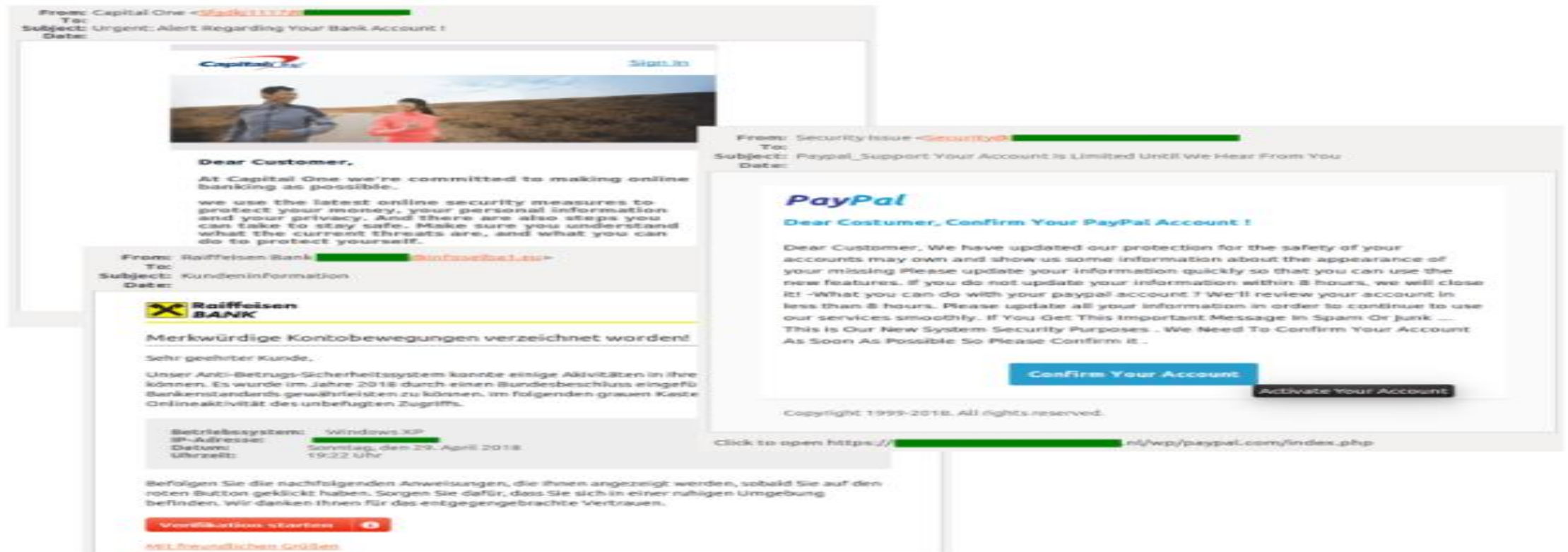
5. E-mail Security

1. Fake Notifications from Social Networks



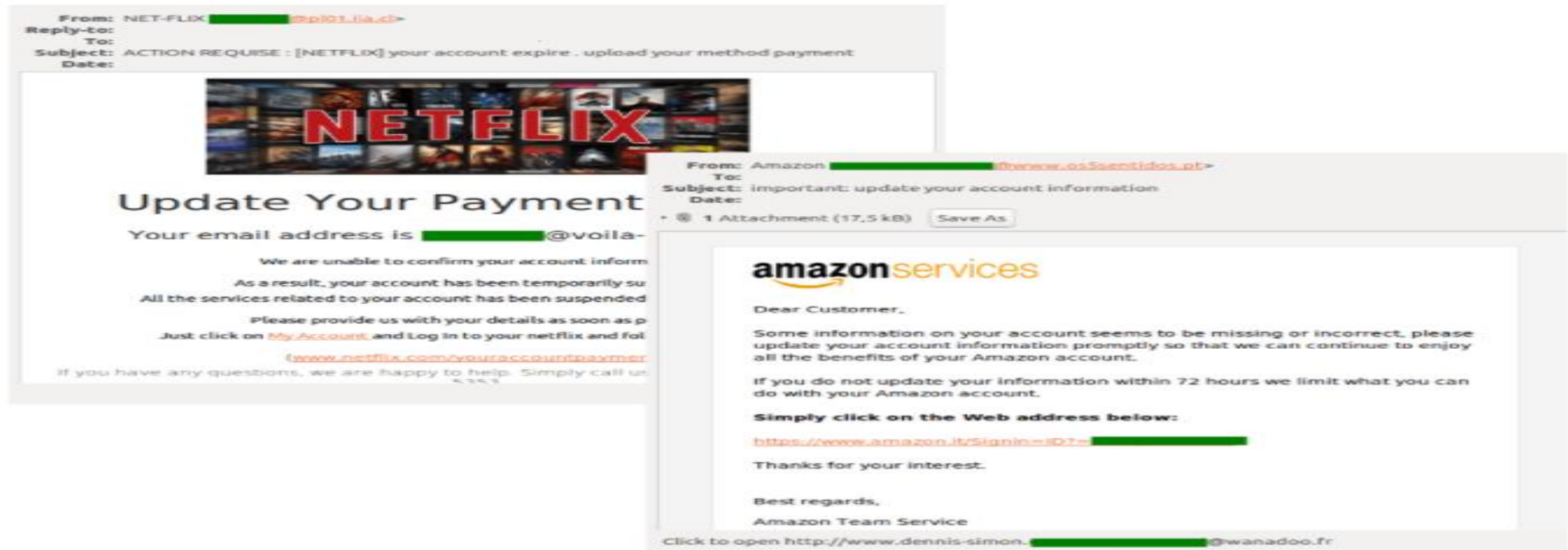
5. E-mail Security

2. Banking Phishing



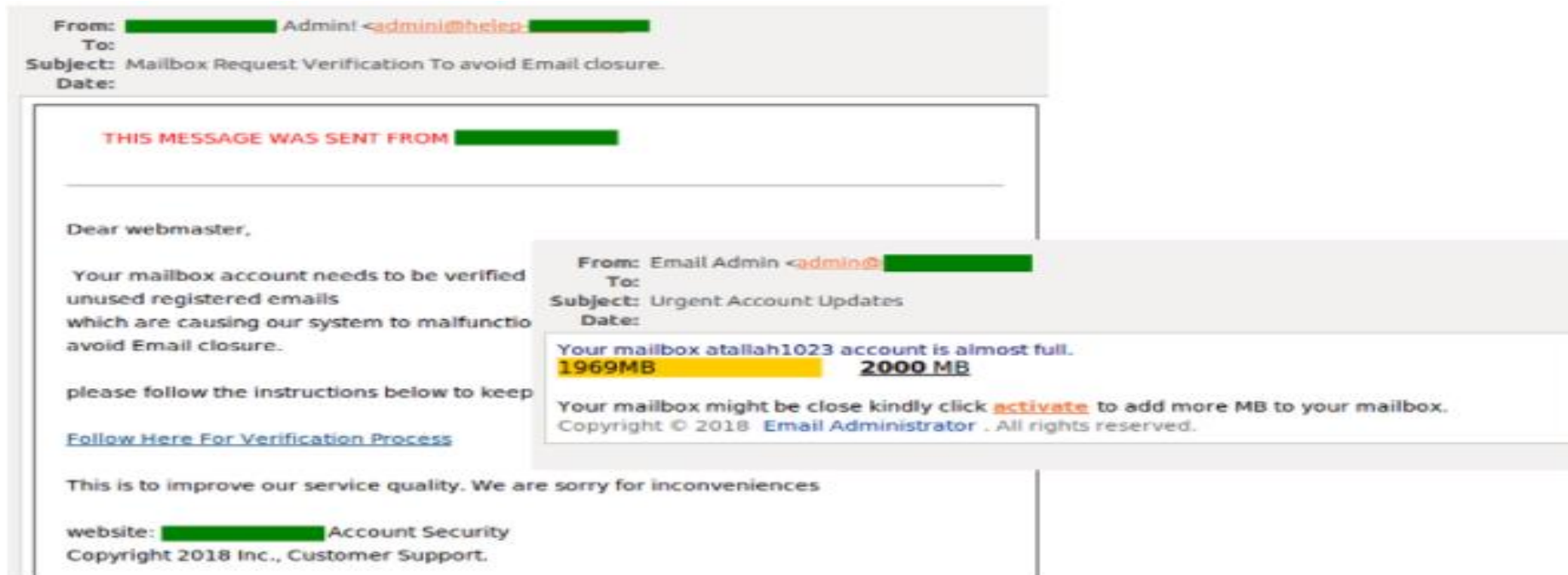
5. E-mail Security

3. Fake Notifications from Popular Services and Vendors



5. E-mail Security

4. Fake Notifications from E-mail Services



5. E-mail Security

5. “Nigerian Prince” Scam

From: Prof. Mohammad Al-Jillati <[redacted]@embajadaperv.org.ve>
Reply-to: [redacted]@yandex.com
Subject: Good Proposal
Date:

Hello Friend,

I hope this message reach you in good health? I am Al-Jillati, the former Finance Minister of Syria, want discus with you, you can read more about me on international Journals about my country Syria. I go online through my searching for a reliable person t this great objective.

Anyway, I have a very important investment project in your country which I want to discuss with you su However, this project involves setting up of ultra mall and high standard hotels in various locations enable me have something to fall back on and be res retirement immediately after the civil war in my co However, I would be delighted to follow your guidel lucrative business ideas you may suggest.

From: Morgan Robert <morgan1robert@[redacted]>
Reply-to: private2017contact@[redacted]
To:
Subject: INVESTMENT PROPOSAL FROM MR.ROBERT MORGAN
Date:

ATTENTION MY FRIEND

INVESTMENT PROPOSAL FROM MR.ROBERT MORGAN

My name is MR.ROBERT MORGAN, i was one of the personal assistant to the former president of my country Nigeria, i am contacting you to assist me for the transfer of some funds to your country for investment, i will give you detail of the funds and let you know how we will proceed and conclude this project without delay if you declare your interest to work with me in this project that will be of good benefit for both of us.

Thanks and waiting to hear from you for further proceeding
Yours Faithfully
Mr.Robert Morgan

From: SGT. Larry Hudson <[redacted]@gmail.com>
Reply-to: [redacted]@yahoo.com
To:
Subject: My Dear Friend,
Date:

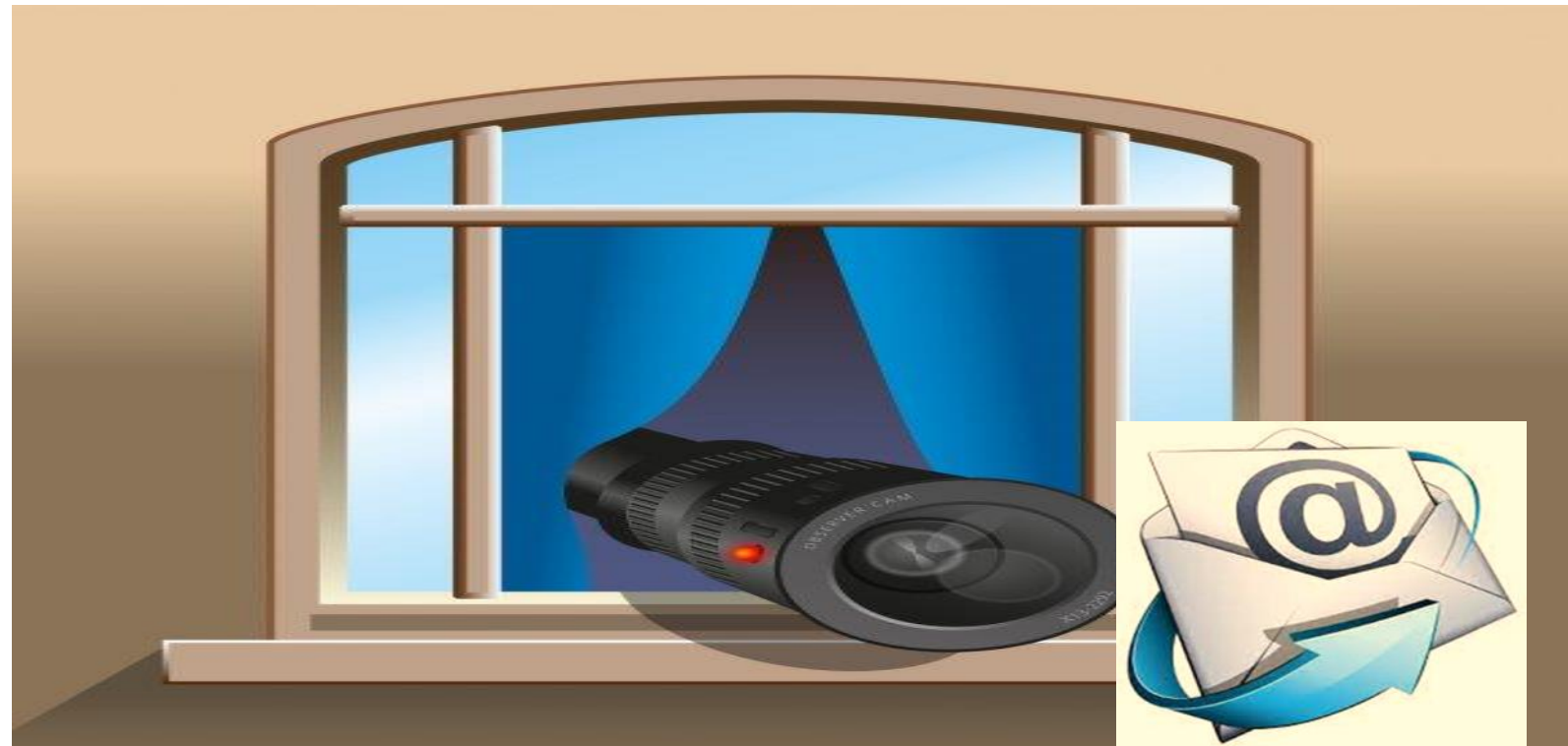
My Dear Friend,

My name is SGT. Larry. I am a war veteran with the United Nations troop in Afghanistan on war against terrorism. I served in the 1st Armored Division in Kabul. Based on the United States legislative and executive decision for withdrawing troops from Iraq, I have been redeployed to come and work in Kabul on the platform of North Atlantic Treaty Organization (NATO). Our mission is to help beef up terrorist targeted states, mostly the United States and the European Union on the war against terrorism.

On the other hand, I want to inform you that I and my partner (Trooper James Anthony Leverett) have the sum of 43Million USD, which we got from a crude oil deal in Iraq before he was killed by an explosion while on a vehicle patrol. Due to this incident, I want you to receive these funds on my behalf as far as I can be assured that my share will be safe in your care until I complete my service here(in Afghanistan) and come over to meet with you. Since we are working here on Official capacity, I cannot keep these funds hence my contacting you.

5. E-mail Security

6. E-mail Trackers





5. E-mail Security

How Can You Protect Yourself?



Disable automatic image downloads.

Hide your IP address from advertisers.

Google's correct e-mail address: no-reply@accounts.google.com

Incorrect e-mail address: ~~no-reply@accounts.google.scroogle.com~~

Use your workplace e-mail address strictly for professional purposes.

Do not open suspicious e-mails.

Do not click on unfamiliar web addresses.

Do not send classified or highly confidential information outside the organization without encryption.

6. Password Security



6. Password Security



Use Unique
Passwords for
Each Online
Account



6. Password Security



Your data is encrypted using advanced encryption methods such as AES-256.



KeePass is an open-source and completely free password manager. Like Bitwarden, it uses the AES-256 encryption method to protect data. The key difference from Bitwarden is that KeePass operates offline. This means that the file generated by KeePass must be stored securely by the user.

6. Password Security



Use a
Passphrase
Instead of a
Password

Tips for Choosing a Strong **Passphrase**:

- Choose a phrase that is meaningful to you.
- Add special characters such as
! @ # \$ % ^ & * ()
- The longer it is, the better.
- Avoid common or famous phrases, such as lyrics from a popular song...

6. Password Security

Password Requirements



National Institute of
Standards and Technology

- Minimum 8 characters, maximum 64 characters.
 - ~~abc123~~
- Do not create passwords with predictable rules.
- Avoid using the “show password” option while typing.
 - Use all printable characters and spaces.
 - Do not use password hints (hints).
 - Do not reuse passwords periodically.
- Avoid using shared security questions, marketing data, transaction history, or similar information for identity verification.

6. Password Security

Password: parola
Cracking time: 17 seconds

Password: parola123
Cracking time: 29 minutes

Password: P.arola123
Cracking time: 2 months

Password: 123456
Cracking time: 1 second

Password: p@rol@
Cracking time: 33 seconds

Password: P@rol@.1+&
Cracking time: 15 days

6. Password Security

In 2020, NordPass published a list of the 200 most commonly used passwords.

Approximately 2.5 million people were found to be using the same password. The top 5 most commonly used passwords were shared by a total of 4.5 million users.

Password Used	Number of Users	Time Required to Cracking
1.123456	2,543,285	Less than 1 second
2.123456789	961,435	Less than 1 second
3.picture1	371,612	3 hours
4.password	360,467	Less than 1 second
5.12345678	322,187	Less than 1 second
6.111111	230,507	Less than 1 second
7.123123	189,327	Less than 1 second
8.12345	188,268	Less than 1 second
9.1234567890	171,724	Less than 1 second
10.senha	167,728	10 seconds
11. 1234567	165,909	Less than 1 second
12. qwerty	156,765	Less than 1 second
13. abc123	151,804	Less than 1 second
14. Million2	143,664	3 hours
15. 000000	122,982	Less than 1 second

<https://nordpass.com/most-common-passwords-list/>

7. Internet Security



7. Internet Security

WWW, is the abbreviation for World Wide Web, which refers to the global system consisting of billions of websites stored on web servers around the world and the files contained within those sites.

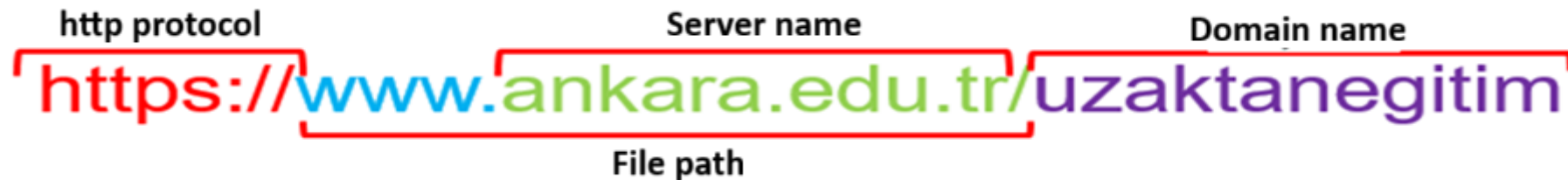
Http, (Hypertext Transfer Protocol) is a system that regulates the rules and methods for transferring information between web servers hosting websites and the computers of users accessing them.

HTTPS was developed by adding a secure network protocol to the standard HTTP protocol. In addition to HTTP on the Internet, other widely used protocols include **FTP** (File Transfer Protocol), which is responsible for file transfers, and **MAILTO**, which provides e-mail services.



7. Internet Security

URL, (Uniform Resource Locator) stands for Uniform Resource Locator, meaning “Standard Resource Identifier.” It is the web address you type in order to access a website.



Examining the Structure of a URL

- **http://** indicates that we are accessing a hypertext document,
- **www** shows that the document is part of the World Wide Web,
- **tr** signifies that the website is hosted in Turkey,
- **edu** indicates that the website belongs to an educational institution,
- **ankara** specifies that the site belongs to Ankara University,
- **/uzaktanegitim** shows that we are currently on the Distance Education page within the Ankara University website.

7. Internet Security

The **https** protocol is secure.



Secure



With this protocol, data transferred is encrypted and the website has a **security certificate**.



SSL Security Certificate

An SSL certificate ensures that the data on websites is encrypted, preventing it from being intercepted by third parties and misused. It is one of the most widely used security protocols.



According to regulations enforced by the Ministry of Customs and Trade, e-commerce companies are required to obtain the user's confirmation of this agreement at the final stage of the sales process.

7. Internet Security

What Should We Primarily Do While Browsing the Internet?

- Access websites that start with **https**.
- Block cookies.
- **Browser Settings → Settings → Privacy and Security → Block Third-Party Cookies**

A cookie is a small data file placed on your computer by a website.

Cookies store session information and similar data.

- In Google, the **safe search option** can be enabled via:
<https://www.google.com/preferences>

Google Search settings

Privacy and Security

Other settings

Activity

When you save history in your account as part of your Web & App Activity, Google can use that history to personalize your experience.

Search history

Recording

Contents

Set preferences for personalization and explicit content to see the kind of search results you want

Customized Search

Open

7. Internet Security

What Should We Primarily Do While Browsing the Internet?

→ Ensure that the website uses SSL (Secure Sockets Layer) or SET (Secure Electronic Transactions) protocols.

→ Instead of using a credit card for online shopping, prefer bank transfer (wire transfer) or EFT.

→ Use a virtual credit card.

→ Change your Wi-Fi password regularly and avoid connecting to unknown networks. Note: This is important because vulnerabilities such as Key Reinstallation Attacks (KRACK) can be exploited.

→ SSID Concealment: On operating systems such as Windows and Linux, this prevents nearby wireless devices from detecting your device while scanning.

This certificate ensures that credit card information is encrypted and prevents it from being copied by unauthorized parties.



[About SSL](#) [What is SSL?](#) [Buy SSL](#) [SSL IP Identification](#) [SSL Installation](#) [Creating a CSR](#) [Domain to Install SSL](#) [Site Traffic](#) [Site Review](#) [Communication](#)

SSL Certificate Inquiry

QUESTION IF YOUR WEBSITE HAS AN SSL CERTIFICATE...

Example: www.sssl.orgulama.com

SSL Query

SSID (Service Set Identifier): The identifier used for access points in wireless networks.

7. Internet Security

What Should We Primarily Do While Browsing the Internet?

- Use a VPN.
- With an encrypted VPN tunnel, even if data transmission is intercepted, it cannot be decrypted.

For Mobile Devices (VPN)

- Go to **Settings** → **More**.
- Under *Wireless Connections and Networks*, select **VPN** and set it to **Always On**.
- Automatic synchronization can be disabled under **Settings** → **Accounts**.

<https://www.kaspersky.com.tr/blog/android-cihazinizi-koruyun-maksimum-guvenlik-icin-10-ipucu/1781/>

- Using the browser's **incognito (private) mode** can prevent others from collecting information about your online activities.

Create a New Connection

1. Select the time at the bottom right.
2. Select **Settings**.
3. In the 'Network' section, select **Add connection**.
4. Next to the **VPN** app, select **Add (+)**.
5. Follow the instructions on the screen.

Connect to a VPN

1. Select the time at the bottom right.
2. Select **Settings**.
3. In the 'Network' section, select the connection name.



Popular Browsers with Incognito (Private) Mode Support

Microsoft Edge **InPrivate**

Google Chrome: **Incognito**

Mozilla Firefox: **Private tab / private window**

Safari: **Private: Private browsing**

7. Internet Security

What Should We Primarily Do While Browsing the Internet?

→ Encrypt Your Data

Encryption is the process of converting information into a form that cannot be read by unauthorized individuals.

The Encrypting File System (EFS) is a Windows feature that enables data encryption. EFS is directly linked to a specific user account. Once data is encrypted using EFS, only the user who performed the encryption can access the data.

To encrypt data using EFS in all versions of Windows, follow these steps:





Step 1. Select one or more files or folders.

Step 2. Right-click the selected item → choose Properties.

Step 3. Click Advanced.

Step 4. Check the box Encrypt contents to secure data.

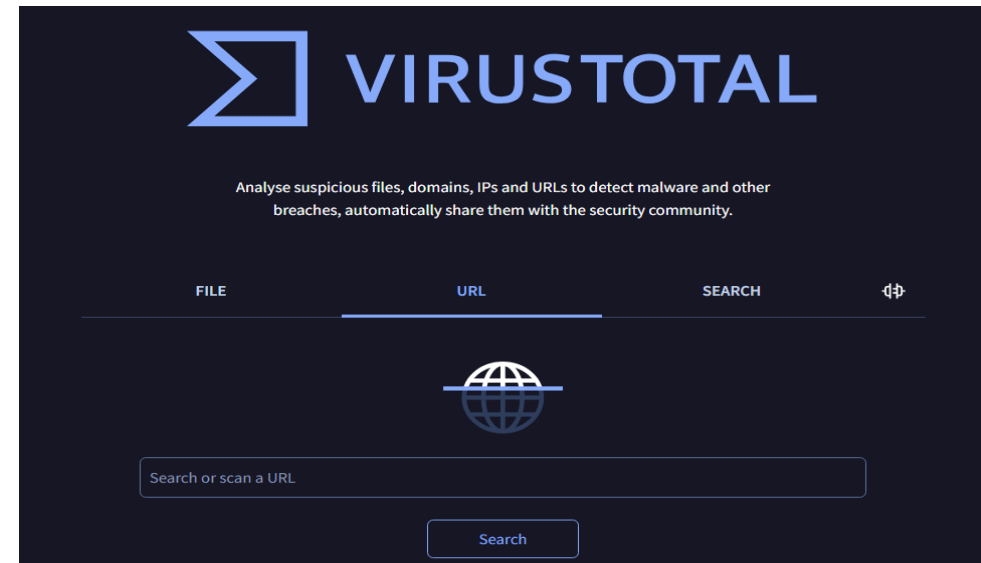
Step 5. Files and folders encrypted with EFS will be displayed in green, as shown.

Name	Date modified	Type
 Encrypted Folder	9/1/2015 3:21 PM	File folder
 Unencrypted Folder	9/1/2015 3:22 PM	File folder
 Encrypted File.txt	9/1/2015 3:22 PM	Text Document
 Unencrypted File.txt	9/1/2015 3:22 PM	Text Document

7. Internet Security

VirusTotal

- VirusTotal is a free website that allows files to be scanned. It integrates approximately 55 different antivirus programs.
- Files can be submitted both via the web and through e-mail.
- Due to possible errors, it cannot guarantee whether a file is completely clean or infected with malware. The service only scans small-sized files and URLs submitted to the platform; it does not scan the user's computer.
- VirusTotal was acquired by Google.
- In 2007, PC World magazine selected VirusTotal as one of the Top 100 Products of the Year.



1. VirusTotal. (2010, August 12). About VirusTotal. Archived from the original source. Retrieved February 7, 2010.
2. VirusTotal. (2010, August 10). VirusTotal - Email/Uploader. Archived from the original source. Retrieved February 7, 2010.
3. Hürriyet. (2012, September 14). Google kendine yeni bir kalkan aldı [Google acquired a new shield]. Archived from the original source. Retrieved September 10, 2012.
4. PC World. (2008, June 4). The 100 Best Products of 2007. Archived from the original source. Retrieved February 7, 2010.

8. Social Engineering



8. Social Engineering

Social engineering is an access attack that attempts to manipulate individuals into performing actions or disclosing confidential information.



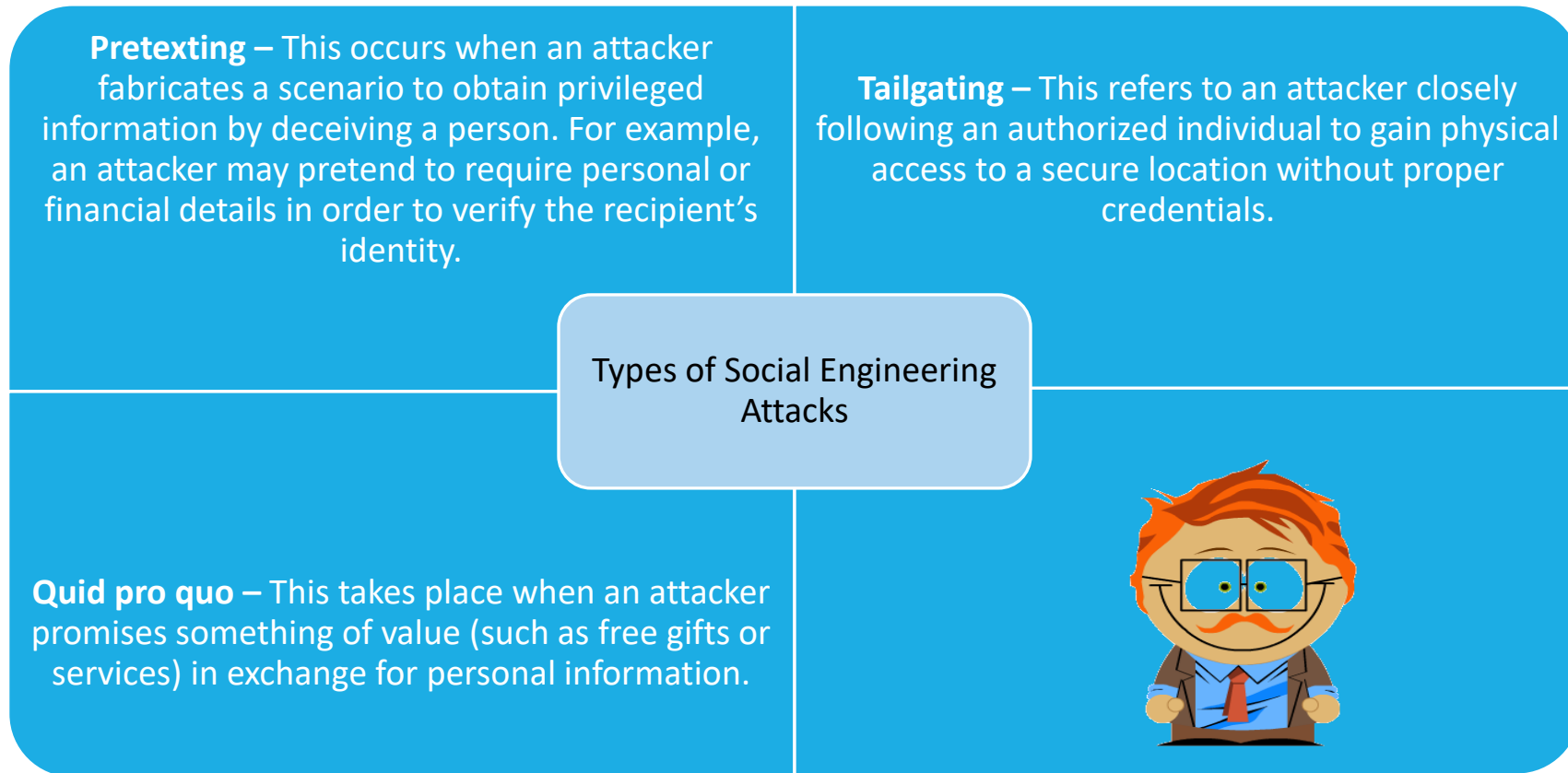
8. Social Engineering

Social engineers typically:

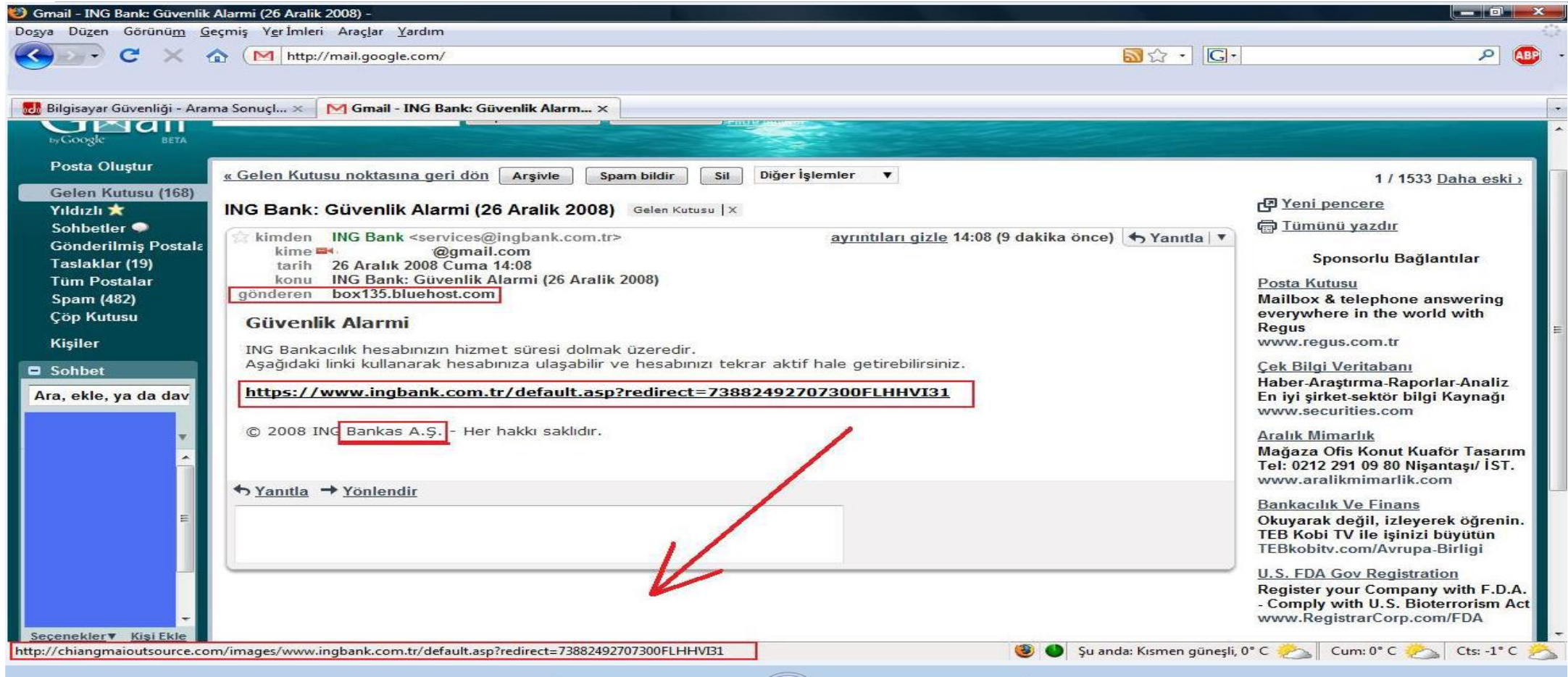
- Exploit people's willingness to help,
- Prey on human weaknesses.



8. Social Engineering

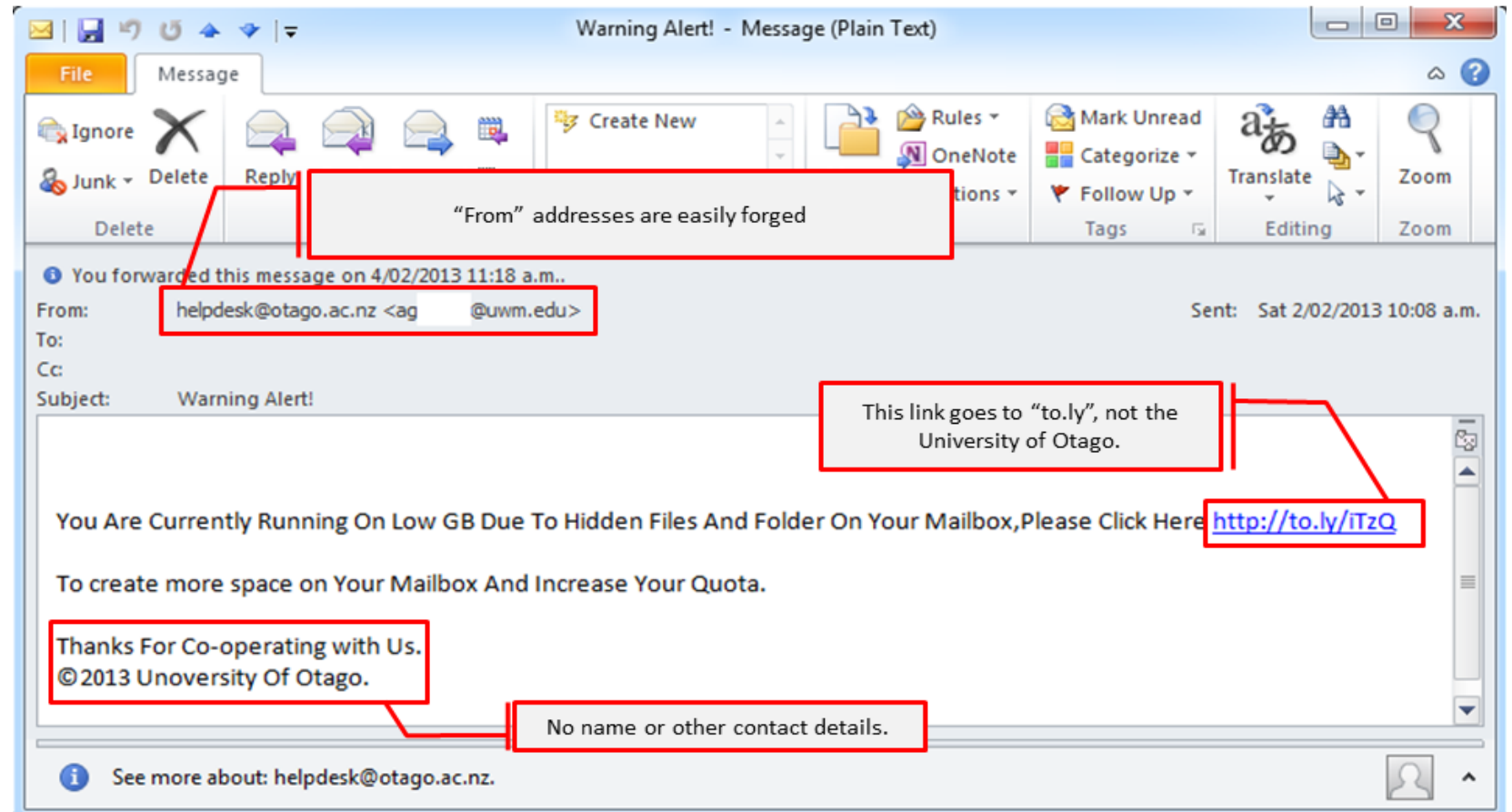


8. Social Engineering



8. Social Engineering

Check the Sender Information



8. Social Engineering

Why Social Engineering Attacks

1. The Weakest Link in the Security Chain is Human
2. Organizations consider their security measures sufficient from a technical perspective.



8. Social Engineering

Who is Kevin Mitnick?

- ✓ 56 years old (06-08-1963). He is considered the greatest hacker of all time.
- ✓ After spending 5 years in prison, he was released on parole in 2000.
- ✓ One of the conditions was not to touch a phone or a computer.

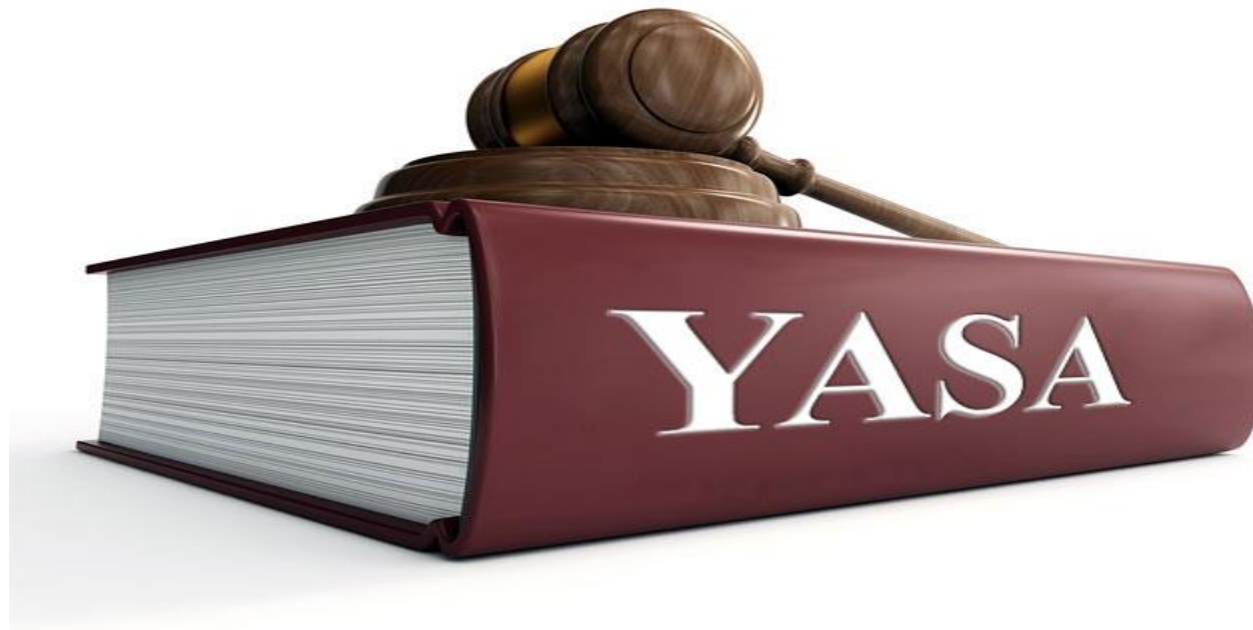


“Social Engineering Was
One of the Most Powerful
Weapons in My Arsenal”

“The Human Factor Is
Actually the Weakest Link
in Security”

“The Problem Lies Not in
the Machines, But in the
Human Factor”

9. Laws Related to Cybersecurity



9. Laws Related to Cybersecurity

- ✓ ENISA
(EU Cybersecurity Agency)



Countries

Countries - Cybersecurity Strategies

(87 Countries, 133 Currenttraies)

<https://afyonluoglu.org/siberguvenlik/>

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