

Funded by the Erasmus+ Programme of the European Union

Overview of Understanding and Handling Cyber-Attacks

Recognising Phishing Attacks

Case Studies Analysis of Phishing Attacks and Techniques

Safeguarding against Phishing in the age of 4th Industrial Revolution www.cyberphish.eu

This project has been funded with support from the European Commission. This publication [communication] reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.



Learning goals



Explain different phishing attacks resulting effects of the attacks and how to recognise and handle these phishing attacks





Student workload





Lecture	3 h
Audio and video material	3 h
Case studies	3 h
Further reading	6 h
Preparation for exam	3 h



Contents

- What are phishing attacks and risks?
- Case studies analysis of phishing attacks
 - What are phishing threats and risks in each case?
 - How to recognise and handle these phishing risks?





What is a Phishing Attack?

Phishing is a social engineering scam that can result in data loss, reputational damage, identity theft, the loss of money, and many other damages to peoples and organisations. A phishing scam usually starts with an email trying to gain the potential victim's trust and convince them to take the attacker's desired actions

[Abroshan, 2021]





What is a Phishing Risk?



Safeguarding your digital future



Recognising Phishing Attacks

3

Understand URLs

Understand the anatomy of URLs and how attackers can use URLs to trick and direct users to malicious resources

Understand phishing

2

Understand the anatomy of a phishing message (source, content, attachment/ hyperlink). How does this correspond to the phishing message under analysis?



Recognizing phishing attacks

Recognise red flags

Understand and recognise warning signs when encountering phishing messages. What do legitimate sources do instead of illegitimate sources

Critical Thinking

Phishing detection involves detecting deception. Spend more time reviewing messages before taking actions and be cautious of potentially phishy messages and actions



Case Studies

Selected Cases

- COVID-related Attacks
- GDPR-related Attacks
- Tech Support Attacks
- Cryptocurrency Scams
- Extortion Scams
- Advance Fee Scams
- Social Media Scams





Selected Cases

- COVID-related Attacks
- GDPR-related Attacks
- Tech Support Attacks
- Cryptocurrency Scams
- Extortion Scams
- Advance Fee Scams
- Social Media Scams



Case Studies

GDPR-related Attacks Emails Instant Messaging Social Networks Websites **Lottery Scams SMS**

Different Types of Phishing Attacks and Techniques...

COVID-related Attacks

- During COVID-19 we noticed an uptick on pandemic-related scams through emails and SMS like fake Centers of Disease Control and Prevention (CDC) or health organisations' notifications, about vaccine coverage, where you can get vaccine, vaccine statistics, status of employees vaccination etc
- Prevalent attacks include COVID health advice email scams

COVID-related Attacks - Case 1 Risk Analysis

Singapore Specialist : Corona Virus Safety Measures

	Tuesday, 28 January 2020 at 03:51 Show Details	a to get nancial /loggers.
Г	Dear Sir, Go through the attached document on safety measures regarding the spreading of corona virus. This little measure can save you.	*
Phish thre	Use the link below to download Safety Measures.pdf	
	Symptoms Common symptoms include fever, cough, shortness of breath, and breathing difficulties. Regards Dr Specialist wuhan-virus-advisory	
Phisher uses		

berPhish

Safeguarding your digital future

11

Safeguarding your digital future

COVID-related Attacks - Case 1 Risk Recognition

2. Understand URLs

2.1 Do not click on any attachments or links

- 2.2 Hover over the attachment to reveal the URL and analyse to determine if malicious
- 2.3 Be cautious if the URL path does not match the content

4. Critical Thinking

- 4.1 Check that email is from a credible and expected source
- 4.2 Be cautious of hyperlinks/attachments; they may link to a malicious resource
- 4.3 Be cautious when emails requests actions with a sense of urgency/fear
- 4.4 Use a search engine to find out more information on email contents, before trusting the message
- 4.5 Look up potentially phishy URLs using free phishing detection tools
- 4.6 Delete the email you were sent if reasonably certain it is a phishing

COVID-related Attacks - Case 2 Risk Recognition

2. Understand URLs

2.1 Do not click on any attachments or links

2.2 Hover over the attachment to reveal the URL and analyse to determine if malicious

1. Understand Phishing Phishing source: Email Phishing message anatomy:

a. Who is the message is from?
cpc@stanford.edu, scottj9@aston.ac.uk
b. What is the message content? Coronavirus
c. Are there hyperlinks/attachments? Yes

3. Recognising Red Flags
3.1 Credible COVID information sources do not send unsolicited emails
3.2 Legitimate emails usually call you by your name
3.3 Legitimate emails are professional and have a uniform template format

4. Critical Thinking

- 4.1 Check that email is from a credible and expected source
- 4.2 Be cautious of hyperlinks/attachments; they may link to a malicious resource
- **4.3** Use a search engine to find out more information on email contents, before trusting the message
- 4.4 Look up potentially phishy URLs using free phishing detection tools
- 4.5 Delete the email you were sent if reasonably certain it is a phishing

GDPR-related Attacks

- Many GDPR related phishing attacks occurs in 2018, as all companies and organisations were mandated to implement GDPR in their organisations
- Attacker tactics can include sending
 - fake emails in pretence of a company helping with GDPR activities, to steal information
 - fake emails in pretence of companies providing information on data policy changes to customer

Safeguarding your digital future

GDPR-related Attacks - Case 1 Risk Recognition

2. Understand URLs

- 2.1 Do not click on any attachments or links
- 2.2 Hover over the attachment to reveal the URL and analyse to determine if malicious
- 2.3 Be cautious if the URL path does not match the content

1. Understand Phishing Phishing source: Email Phishing message anatomy:

a. Who is the message is from?

noreplysecurityservices b. What is the message content? Account security alert

c. Are there hyperlinks/attachments? Yes

Recognizing phishing attacks

3. Recognising Red Flags

3.1 Legitimate email messages do not have conflicting contents eg "GDPR" vs "Out of date security"
3.2 Legitimate service emails are professional and have a uniform format

4. Critical Thinking

- 4.1 Check that email is from a credible and expected source
- 4.2 Be cautious of hyperlinks/attachments; they may link to a malicious resource
- 4.3 Be cautious when emails requests actions with a sense of urgency/fear
- 4.4 Use a search engine to find out more information on the organisation providing the supposed service
- 4.5 Look up potentially phishy URLs using free phishing detection tools
- 4.6 Delete the email you were sent if reasonably certain it is a phishing

her

GDPR-related Attacks - Case 2 **Risk Analysis GDPR** (A) airbnb ial loss, identity Your acount h and used for needs an update r attacks Hi You (Airbnb host are Currently not able to accept new boookings or sent messages until you accept our new Privacy Policy. rbnb handles Phishind br customers. Airbnb has updated his Privacy Policy for European users on 18 Apr threat 2018. the email This update is mandatory because of the new changes in the EU Digital privacy legislation that acts upon United States based companies, like Airbnb in order to protect European citizens and companies. ke legitimate In order ro log back in, you need to accept our new Privacy Policy ates for GDPR. uses Phisher mit sensitive Click here to accept the new Privacy Policy 0..* 0... n, including rmation) Enviado con desdo Airbnb Funded by the Airbnb. Inc. 888. B herPhish **Erasmus+ Programme** of the European Union

Safeguarding your digital future

GDPR Phishing Email (Source: Securityaffairs)

GDPR-related Attacks - Case 2 Risk Recognition

2. Understand URLs

- 2.1 Do not click on any attachments or links
- 2.2 Hover over the attachment to reveal the URL and analyse to determine if malicious
- 2.3 Be cautious if the URL path does not match the message content

1. Understand Phishing Phishing source: Email Phishing message anatomy: a. What is the message content? GDPR b. Are there hyperlinks/attachments? Yes 1. Understand Phishing B. Are there hyperlinks/attachments? Yes 3. Recognising Red Flags 3.1 Legitimate companies handle privacy policy agreements directly on the website or application 3.2 GDPR notifications sent by companies to its customers don't ask for users' credentials

4. Critical Thinking

- **4.1** Check that email is from a credible and expected source
- 4.2 Be cautious of hyperlinks/attachments; they may link to a malicious resource
- 4.3 Check the sender's email address for discrepancies that are indicators of fraud (see Airbnb list)
- 4.4 Check more information of the email content on the official Airbnb website
- **4.5** Look up potentially phishy URLs using free phishing detection tools
- 4.6 Delete the email you were sent if reasonably certain it is a phishing

Tech-Supported Attacks

- In technical support scams, a scammer claims to offer a legitimate technical support service and may use different tactics to get victims attention including cold calls, website pop-ups, email messages, and SMS
- Most popular tactics used, include
 - website pop-ups warning user about a computer virus
 - technical services email scams

		Tech Supported Attacks - Cas	se 1
	Tech support Phishing risk	Risk Analys	İS
Search - at	tt.net × 🗅 Windows Official Support 🐠 × 🕂		
O ← → C	https://serversupport08.azurewebsites.net/1sdafgdfvsdert44bdsbfj2342x/	€ ☆ ⊖ :	
	support.windows.com says: ** Windows Warning Alert ** Malicious Pornographic Spyware/Riskware Detected	* Windows	
	Windows protected your PC		
	Windows SmartScreen prevented an unrecognized app from starting. Running this app might put your PC at risk. For technical support call on +1-855-595-7999 (Toll Free) .		
	Publisher: Unkonwn Publisher App: windows10manager (1).exe	Run anyway Back to Safety	
	Your computer with the IF Stay Page Leave Page has expired & Your infor +1-855-595-7999 to protect your files and identity from further damage.	ystem Activation KEY n stolen. Call Windows	
	Call Windows : +1-855-595-7999 (Toll F Automatically report details of possible security incidents to Google. Privacy policy	Free)	
Phisher	Call Windows : +1-855-595-7999 (Toll Free)	Back to safety	
6	support servi	ice	
CyberPhish	Tech Support Phishing Email (Sou	urce: Bleepingcomputer)	25

Tech Supported Attacks - Case 1 Risk Recognition

2. Understand URLs

2.1 Do not click on any pop-up call to action buttons or links

1. Understand Phishing Phishing source: Website Phishing message anatomy:

a. Who is the message is from? *Pop-up* b. What is the message content? *Antivirus protection*

c. Are there call to action prompts? Yes

3. Recognising Red Flags

3.1 Legitimate Windows protection will be handled by local Windows Defender and not on a website
3.2 Microsoft does not send unsolicited pop-ups on websites

3.3 You cannot call "*Windows*" on a phone number

4. Critical Thinking

4.1 Be cautious of all unexpected pop-ups on websites, do not click on unexpected pop-ups and block pop-ups where possible

4.2 Be cautious when pop-ups requests actions with a sense of urgency/fear

4.3 Never give an account password or login information for "verification" over the phone or in an email

4.4 Close the website generating the suspicious pop-up

Tech Supported Attacks - Case 2 **Risk Analysis**

Safeguarding your digital future

Tech Support Phishing Email (Source: vk-intel)

Tech Supported Attacks - Case 2 Risk Recognition

2. Understand URLs

2.1 Do not click on any attachments or links

2.2 Hover over the attachment to reveal the URL and analyse to determine if malicious2.3 Be cautious if the URL path does not match the content

1. Understand Phishing

Phishing source: Email Phishing message anatomy:

a. Who is the message is from? "order-

update @amazon.com"

b. What is the message content? *Cancelled Amazon order*

c. Are there hyperlinks/attachments? Yes

4. Critical Thinking

- 4.1 Check that email is from a credible and expected source
- 4.2 Even if it looks legitimate, go to your actual account on the company's legitimate website eg "amazon.com", to verify any concerns
- 4.3 Be cautious as these email scam types can take advantage of your sense of curiosity and greed
- 4.4 Look up potentially phishy URLs using free phishing detection tools
- 4.5 Only give an account password or login information for "verification" on secure parts of legitimate websites
- 4.6 Delete the email you were sent if reasonably certain it is a phishing

3. Recognising Red Flags

3.1 Legitimate emails from Amazon call you by your name
3.2 Legitimate service emails are professional and have a uniform format.
3.3 Note that the URL path links to

"http://www.cuinavo.com/maritime.php" and not an Amazon resource 3.4 Amazon sends order cancellation email from "*order*-

update @*amazon.com*" a legitimate Amazon email, but the email format is not professional. Message email is likely spoofed

Tech Supported Attacks - Case 2 Risk Recognition

2. Understand URLs

2.1 Do not click on any attachments or links

2.2 Hover over the attachment to reveal the URL and analyse to determine if malicious

2.3 Be cautious if the URL path does not mate 3. Recognising Red Flags

3.1 Legitimate emails from Amazon call you by your name

3.2 Legitimate service emails are professional and have a uniform format.

3.3 Note that the URL path links to

"http://www.cuinavo.com/maritime.php" and not an Amazon resource

3.4 Amazon sends order cancellation email from "order-

update @amazon.com" a legitimate Amazon email, but the email format is not professional. Message email is likely spoofed

- 4.1 Check that email is from a credible and expected source
- 4.2 Even if it looks legitimate, go to your actual account on the company's legitimate website eg "amazon.com", to verify any concerns
- 4.3 Be cautious as these email scam types can take advantage of your sense of curiosity and greed
- 4.4 Look up potentially phishy URLs using free phishing detection tools
- 4.5 Only give an account password or login information for "verification" on secure parts of legitimate websites
- 4.6 Delete the email you were sent if reasonably certain it is a phishing

1. Understand Phishing

Phishing message anatomy:

a. Who is the message is from? "order-

b. What is the message content? Cancelled

c. Are there hyperlinks/attachments? Yes

Phishing source: Email

update@amazon.com"

4. Critical Thinking

Amazon order

Tech Supported Attacks - Case 2 Risk Recognition

4.1 Check that email is from a credible and expected source

4.2 Even if it looks legitimate, go to your actual account on the company's legitimate website eg "*amazon.com*", to verify any concerns

4.3 Be cautious as these email scam types can take advantage of your sense of curiosity and greed

4.4 Look up potentially phishy URLs using free phishing detection tools

4.5 Only give an account password or login information for "verification" on secure parts of legitimate websites

4.6 Delete the email you were sent if reasonably certain it is a phishing

Cryptocurrency Scams

- As Bitcoin and other cryptocurrencies surged in price and popularity, hackers and cybercriminals became more interested in stealing it
- Attackers can use phishing to impersonate representatives from popular cryptocurrency exchanges like Binance, Huobi Global, or Coinbase

Cryptocurrency Scams Risk Analysis

Colnbase

customer904445382456@websuppo...

6:51 PM

Hi Customer,

Coinbase

Your Colnbase Has Disable

It looks like someone else may have acces to your account, so we've temporarily locked it to keep your personal informations in safe.

To unlock your account, you may need to pass a security check. Note that attempting to access someone else is a violation of Colnbase terms. It may also be illegal.

To unlock your account access please enter the link below :

SIGNIN

Data loss, reputational damage,

COINBASE: A withdrawal has been attempted from a new device. If this was not you, follow the steps here: https://cbsupport.smsb.co /1HVHfA

21:51

rns user of unusual activity in message, clicks on the link, to enter their username and s sensitive information

Cryptocurrency phishing email. Source: Reddit Cryptocurrency phishing text message. Source: Reddit

2

Funded by the Erasmus+ Programme of the European Union

34

Safeguarding your digital future

vberPhish

Cryptocurrency Scams Risk Recognition

2. Understand URLs

2.1 Do not click on any attachments or links

2.2 Hover over the attachment to reveal the URL and analyse to determine if malicious2.3 Be cautious if the URL path does not match the content

1. Understand Phishing

Phishing source: Email, SMS Phishing message anatomy:

a. Who is the message is from? "... @websupport.com",

SMS Phone number

b. What is the message content? Account disable

notification, Withdrawal notice

c. Are there hyperlinks/attachments? Yes

3. Recognising Red Flags

3.1 Messages from legitimate apps call you by your name
3.2 Legitimate messages are professional and well formatted
3.3 Legitimate messages do not contain typos i.e using "CoInbase" instead of "Coinbase", "Your CoInbase Has Disable", or "SIGNIN"
3.4 Legitimate email domain for Coinbase is "... @coinbase.com" not "... @websupport.com"

4. Critical Thinking

4.1 Double-check the sender's address, legitimate emails from Coinbase should have email addresses ending in .coinbase.com

4.2 Reach out directly to Coinbase customer support for problems with your account or a payment

4.3 Be cautious as these scam types take advantage of your fear and urgency

4.4 Cross check security information on the legitimate service website

4.5 Never click links/attachments from unknown sources, check suspicious URLs using free phishing detection tools

4.6 Only give an account password or login information for "verification" on secure parts of legitimate websites

4.7 Delete the email you were sent if reasonably certain it is a phishing

Cryptocurrency Scams Risk Recognition

2. Understand URLs

2.1 Do not click on any attachments or links

2.2 Hover over the attachment to reveal the URL and analyse to determine if malicious

2.3 Be cautious if the URL path does not match the content

1. Understand Phishing Phishing source: Email, SMS **Phishing message anatomy**:

a. Who is the message is from?

"...@websupport.com", SMS Phone number

b. What is the message content? Account disable notification, Withdrawal notice

c. Are there hyperlinks/attachments? Yes

3. Recognising Red Flags

3.1 Messages from legitimate apps call you by your name
3.2 Legitimate messages are professional and well formatted
3.3 Legitimate messages do not contain typos i.e using
"Colnbase" instead of "Coinbase", "Your Colnbase Has
Disable", or "SIGNIN"
3.4 Legitimate email domain for Coinbase is
"...@coinbase.com" not "...@websupport.com"

4. Critical Thinking

4.1 Double-check the sender's address, legitimate emails from Coinbase should have email addresses ending in .coinbase.com

4.2 Reach out directly to Coinbase customer support for problems with your account or a payment

4.3 Be cautious as these scam types take advantage of your fear and urgency

4.4 Cross check security information on the legitimate service website

4.5 Never click links/attachments from unknown sources, check suspicious URLs using free phishing detection tools

4.6 Only give an account password or login information for "verification" on secure parts of legitimate websites

4.7 Delete the email you were sent if reasonably certain it is a phishing

Cryptocurrency Scams Risk Recognition

4.7 Delete the email you were sent if reasonably certain it is a phishing

Extortion Scams

- Extortion scams are unfortunately making a comeback where fraudsters and hackers can access data from breaches and make an "I Know Your Password" threat to victims
- Attackers can also claim to have accessed your computer and its camera, obtained sexually explicit video or images of you and may even get you to pay by Bitcoin

Extortion Scams Risk Analysis

From: <u>Beitris</u> Englert <<u>hbeleonoretvi@outlook.com</u>> Date: July 12, 2018

Subject:

It seems that, xxxxxxxx, is your password. You may not know me and you are probably wondering why you are getting this e mail, right?

Extortion

actually, I setup a malware on the adult vids (porno) web-site and guess what, you visited this site to have fun (you know what I mean). While you were watching videos, your internet browser started out functioning as a RDP (Remote Desktop) having a keylogger which gave me accessibility to your screen and web cam. after that, my software program obtained all of your contacts from your Messenger, FB, as well as email.

What did I do?

Phisher

Safeguarding your digital future

I created a double-screen video. 1st part shows the video you were watching (you've got a good taste haha . . .), and 2nd part shows the recording of your web cam.

exactly what should you do?

Well, in my opinion, \$2900 is a fair price for our little secret. You'll make the payment by Bitcoin (if you do not know this, search "how to buy bitcoin" in Google).

BTC Address: 1KiCTVUq5A9BPwoFC8S965tsbtqcWr8bty (It is cAsE sensitive, so copy and paste it)

ntic vord.

sonal or

public

40

Risk Recognition

2. Understand URLs

- 2.1 Do not click on any attachments or links
- 2.2 Hover over the attachment to reveal the URL and analyse to determine if malicious
- 2.3 Be cautious if the URL path does not match the content

4. Critical Thinking

- 4.1 Be cautious as these email scam types can take advantage of your fear and shame
- 4.2 Check if your email has been compromised at websites i.e *haveibeenpwned.com* or *dehashed.com*
- 4.3 If the password is still in use, it is important to secure these accounts
- 4.4 Delete the email you were sent if reasonably certain it is a phishing

Advance Fee Scams

- Advance fee scams are still potent during the COVID pandemic, as people have fallen on hard times. These phishing attacks occur when a criminal abroad is offering a share in a large sum of money for helping them transfer the money out of their country
- To do this, they'll request your banking information or ask you to pay the fees, charges or taxes

[SPAM]ATN International Credit Settlement

Central Bank of Nigeria [printer@brandmelloon.co.uk] Sent: Sat 10/13/2012 5:20 AM

To: dave@d

Central Bank of Nigeria. ATM International Credit Settlement, Directorate of International Payment.

This is to officially notiify yoou about your Fund that was supposed to be rendered to you via numeroous ways i.e. Coourier Companies, Western Union Money Transfer and Banks. Due to this lost of Funds oof yours which was suppose to be given to you but failed to. So in this case, a beneficial meeting was held on the 25th of August 2012 at the World Bank iin Switzerland, which top officials and Central Bank Governors froom different countries in the world were present at the meeting. Which they discussed on how your Fund can be given to you withoout any loss at this time, which yoou have to stop any further communication with any other person(s) or office(s) to avoid any hitches in receiving your ATM payment.

In conclusion at the meeting., The President of World Bank Mr. Jim Yong Kim has strictly authorized 6 Banks in the World to deliver all Funds through courier companies. Your Fund which is truly \$3.5 Million USD (Three Million, Five Hundred Thousand United States of America Dollars) to all beneficiaries in various countries in the world as an ATM MASTER CARD. Below are the authorized Banks;

Daiwa Bank R/Osaka/Japan. Caja De Madrid/Madrid/Spain. Lloyds Bank R /London/England. Central Bank of Nigeria/Lagos/Nigeria. Banco di Santo Spirito/Rome/Italy. Bank of New York Mellon Corp/New York/USA.

Advance Fee Scams Risk Analysis

Advance Fee Scams **Risk Analysis**

Safeguarding your digital future

Advance Fee Scams Risk Recognition

2. Understand URLs2.1 Do not follow on any instructions in the email message

4. Critical Thinking

- **4.1** Never give banking information to someone you've never met
- 4.2 Be cautious as these email scam types can take advantage of your sense of curiosity and greed
- **4.3** Delete the email you were sent if reasonably certain it is a phishing

Social Media Scams

- Here, attackers use social media sites such as Facebook, LinkedIn or Twitter, to trick users into clicking on malicious links or revealing personal information
- Attackers can also find a wealth of information about potential victims on social media to launch a targeted attack

Social Media Scams - Case 1 Risk Analysis

of the European Union

Gareth Bottomley • 10:14 AM

E

Extortion Phishing Email (Source: LinkedInTraining)

...

Phish

perPhi

48

Social Media Scams - Case 1 Risk Analysis

Social Media Scams - Case 1 Risk Recognition

2. Understand URLs

2.1 Do not click on any attachments or links

2.2 Hover over the attachment to reveal the URL and analyse to determine if malicious

4. Critical Thinking

4.1 Only give an account password or login information for "verification" on secure parts of legitimate websites

- 4.2 Even if it seems like the message is from someone you trust, there's a chance that their account has been compromised
- 4.3 Always use enhanced privacy settings on social media
- 4.4 Do not click on suspicious links in DMs, check suspicious URLs using free phishing detection tools
- 4.5 Never accept LinkedIn connection requests from someone you're not familiar with
- 4.6 Be careful about sharing too much personal information on social media
- 4.7 Unfollow/Block suspicious accounts and delete the message you were sent if reasonably certain it is a phishing

Social Media Scams - Case 2 Risk Recognition

2. Understand URLs

2.1 Do not click on any attachments or links

2.2 Hover over the attachment to reveal the URL and analyse to determine if malicious

2.3 Be cautious if the URL path does not match the platform domain

1. Understand Phishing

Phishing source: Direct message
Phishing message anatomy:
a. Who is the message is from? Instagram User

b. What is the message content? *Copyright infringement claim*

c. Are there hyperlinks/attachments? Yes

Recognizing phishing attacks

3. Recognising Red Flags

3.1 Legitimate copyright claim notifications will be send personally by Instagram

3.2 Instagram will always use the name registered to your account to address you

3.3 The link provided should match the platform domain i.e *"instagram.com"* not *"instagramhelpnotice.com"*

4. Critical Thinking

4.1 Only give an account password or login information for "verification" on secure parts of legitimate websites

4.2 Even if it seems like the message is from someone you trust, there's a chance that their account has been compromised

4.3 Always use enhanced privacy settings on social media

4.4 Do not click on suspicious links in DMs, check suspicious URLs using free phishing detection tools

4.5 Be careful when messaging users that you're not familiar with, and that you do not follow

4.6 Unfollow/Block suspicious accounts and delete the message you were sent if reasonably certain it is a phishing

Social Media Scams - Case 2 Risk Recognition

2. Understand URLs
2.1 Do not click on any attachments or links
2.2 Hover over the attachment to reveal the URL and analyse to determine if malicious
2.3 Be cautious if the URL path does not match the platform domain

1. Understand Phishing

Phishing source: Direct message Phishing message anatomy:

a. Who is the message is from? Instagram User

b. What is the message content? Copyright infringement claim

c. Are there hyperlinks/attachments? Yes

3. Recognising Red Flags
3.1 Legitimate copyright claim notifications will be send personally by Instagram
3.2 Instagram will always use the name registered to your account to address you
3.3 The link provided should match the platform domain i.e *"instagram.com"* not *"instagramhelpnotice.com"*

4. Critical Thinking

4.1 Only give an account password or login information for "verification" on secure parts of legitimate websites

4.2 Even if it seems like the message is from someone you trust, there's a chance that their account has been compromised

4.3 Always use enhanced privacy settings on social media

4.4 Do not click on suspicious links in DMs, check suspicious URLs using free phishing detection tools

4.5 Be careful when messaging users that you're not familiar with, and that you do not follow

4.6 Unfollow/Block suspicious accounts and delete the message you were sent if reasonably certain it is a phishing

Social Media Scams - Case 2 Risk Recognition

Social Media Scams - Case 3 Risk Recognition

2. Understand URLs

- 2.1 Do not click on any attachments or links
- 2.2 Hover over the attachment to reveal the URL and analyse to determine if malicious
- 2.3 Be cautious if the URL path does not match the platform domain

1. Understand Phishing Phishing source: Direct message Phishing message anatomy:

a. Who is the message is from? Twitter User

b. What is the message content? Account verification claim

c. Are there hyperlinks/attachments? Yes

3. Recognising Red Flags

3.1 Legitimate twitter verification process is handled by a request process to Twitter (not the other way around)
3.2 Twitter will always use the name registered to your account to address you
3.3 The link provided should match the platform domain i.e "*twitter.com*" not "*twitterverifiy.verifiy.ml*"

Are there hyperlinks/attachments? res

4. Critical Thinking

4.1 Only give an account password or login information for "verification" on secure parts of legitimate websites eg "twitter.com **4.2** Even if it seems like the message is from someone you trust, there's a chance that their account has been compromised **4.3** Always use enhanced privacy settings on social media

4.4 Do not click on suspicious links in DMs, check suspicious URLs using free phishing detection tools

4.5 Be careful when messaging users that you're not familiar with, and that you do not follow

4.6 Unfollow/Block suspicious accounts and delete the message you were sent if reasonably certain it is a phishing

Summary

- Phishing case studies
 - Risk analysis of highlighted phishing attacks and scams
 - Recognising these phishing attacks to prevent the resulting phishing risks

Assignment

- Discuss 3 phishing attacks, not mentioned, that you think are prevalent today
- Build a risk analysis for these phishing scams highlighting the attack methods, vulnerabilities, and phishing events that form the phishing risk
- Discuss how you can recognise these scams and prevent the resulting phishing risks

Further Reading

- **Dubois E., Heymans P., Mayer N., Matulevičius R.** (2010) A Systematic Approach to Define the Domain of Information System Security Risk Management. *Intentional Perspectives* on Information Systems Engineering 2010: 289-306
- Abroshan H. (2021): Root Causes of Falling Victim to Phishing – The Effects of Human Behavior, Emotions, and Demographics., *PhD thesis*, Ghent University.
- Althobaiti, K., Meng, N., & Vaniea, K. (2021). I Don't Need an Expert! Making URL Phishing Features Human Comprehensible. In *Proceedings of the 2021 CHI Conference* on Human Factors in Computing Systems (pp. 1-17).
- Drake, C. E., Oliver, J. J., & Koontz, E. J. (2004). Anatomy of a Phishing Email. In CEAS.
- Althobaiti, K., Meng, N., & Vaniea, K. (2021, May). I Don't Need an Expert! Making URL Phishing Features Human Comprehensible. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems* (pp. 1-17).
- Drake, C. E., Oliver, J. J., & Koontz, E. J. (2004). Anatomy of a Phishing Email. In CEAS.

Short Videos

- Phishing email scam anatomy

 https://youtu.be/3gpOM9c6mmA
- Some phishing attack examples
 - o https://youtu.be/lpGfxlAQhSo
 - o https://youtu.be/pGEAZdp0MAI
- Recognising and staying safe from phishing
 - o https://youtu.be/R12_y2BhKbE

Thank you!

www.cyberphish.eu Project Implementation Period 02 11 2020 – 02 11 2022

CyberPhish Project #CyberPhish

Funded by the Erasmus+ Programme of the European Union

Short Videos

- Phishing email scam anatomy
 - https://youtu.be/3gpOM9c6mmA
- Some phishing attack examples
 - o <u>https://youtu.be/lpGfxIAQhSo</u>
 - o <u>https://youtu.be/pGEAZdp0MAI</u>
- Recognising and staying safe from phishing
 - o <u>https://youtu.be/R12_y2BhKbE</u>

