Why we invite our community to play

Security Awareness and Game Design

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What?

→ Security awareness: why and how

→ Security awareness and game design: opportunities, challenges and tips

→ 5 years of SWITCH Security Awareness Adventures

IT Security Awareness

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Why Awareness?

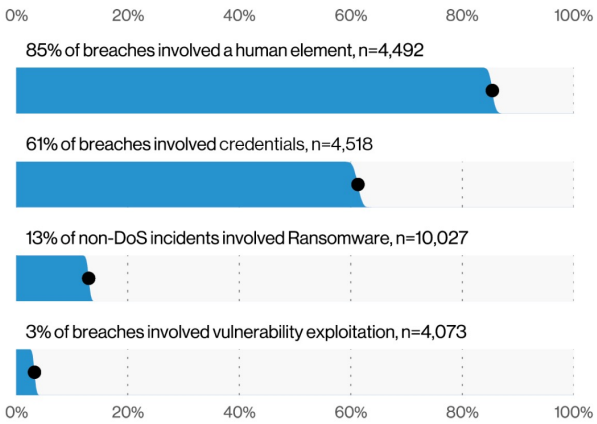

Figure 7. Select action varieties (n=4,073)

Verizon, 2021 Data Breach Investigations report

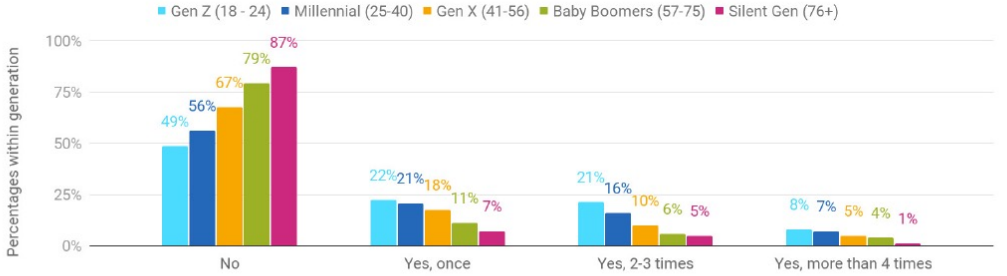

Figure 10. "Have you ever been a victim of harmful cyber activities online that have resulted in the loss of money or data?"

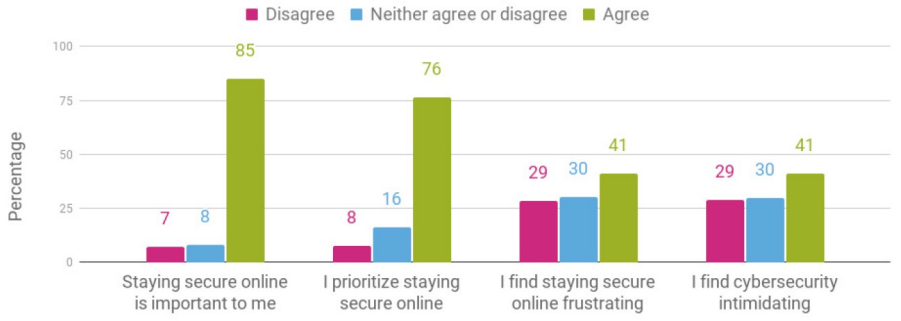

Figure 14. Participants' levels of agreement to four cybersecurity statements.

Base: UK & US based participants, total number: 2000, aged 18+, dates conducted: August 10, 2021 - August 18, 2021.

CybSafe and National Cybersecurity Alliance,
OH, BEHAVE! THE ANNUAL CYBERSECURITY ATTITUDES AND BEHAVIORS REPORT 2021

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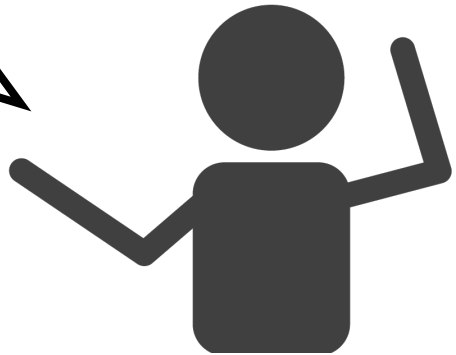
IT Security
attachments
passwords
social media
houlder surfing
links
data leaks
data privacy
data classification
social engineering

AWARENESS
Raising awareness of and interest in a special topic

EDUCATION
Learning new skills and the theory behind them

TRAINING
Learning and training (new) skills



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Security Awareness and Game Design

Gamification vs. Game Design

https://en.wikipedia.org/wiki/Gamification

https://en.wikipedia.org/wiki/Game_design

Advantage of Game Design in Trainings

→ Have some fun

→ Freedom to fail

→ Satisfaction of solving the problem

Game Design in training – a balancing act

Game	Training
Game objective	Training objective
Pretending	Relevance for reality
Challenge	Frustration

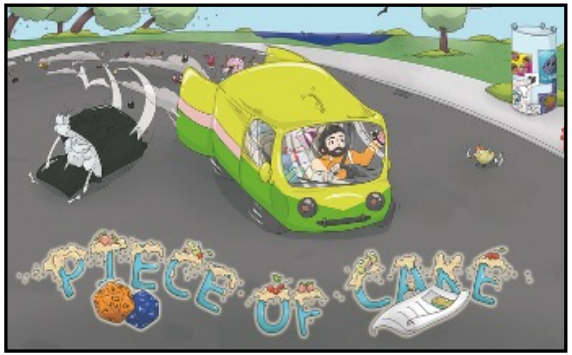
Tips for game design in training

→ Use existing games

→ Every task/question needs to be relevant for the game

→ Involve ALL players

SWITCH Security Awareness Adventures



Training in 3 steps

1. Learn
2. Apply
3. Recall

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SWITCH Security Awareness Adventures

Hack The Hacker – the escape room

Duration:	ca. 2 h	Training topics:
Participants:	max. 6 pers.	• Password security • Backups • Dumpster diving • Brute force methods • Social engineering • Phishing • Encryption
Target group:	employees of all fields	

https://swit.ch/hack-the-hacker

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Hack The Hacker - Objectives

Game:

→ Find decryption key

→ Save the organisation

Training:

The participants understand risk of poor security measures and importance of strong passwords.

SWITCH Security Awareness Adventures

Track The Hacker – the outdoor quest

Duration:	ca. 3 h	Training topics:
Participants:	max. 6 pers.	• Data Security • Data Privacy • Social engineering
Target group:	employees of all fields	

https://swit.ch/track-the-hacker

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Track The Hacker - Objectives

Game:

→ Recover data

→ Save the organisation

Training:

The participants learn how to deal consciously with personal data online.

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CYBER

Track Hacker
CYBER

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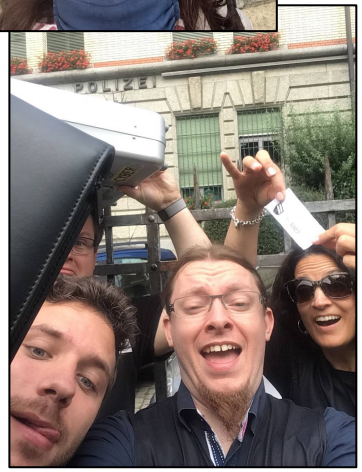
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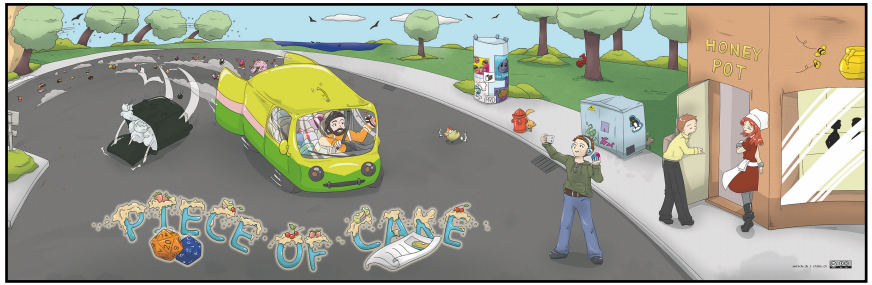
SWITCH Security Awareness Adventures

Piece of Cake – the role playing game



Duration:	ca. 2 h	Training topics:
Participants:	max. 5 pers.	• Social engineering • Data privacy • Data security
Target group:	employees of all fields	

https://swit.ch/piece-of-cake

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Piece of Cake - Objectives

Game:

→ Find recipe

→ Save bakery

Training:

The participants learn how to detect and react to Social Engineering attacks.

THE HACKER-HACKER 3X3

Ransomware

1. Talk to experts
2. Don't pay
3. Carry out regular backups

Passwords

1. Choose unique passwords
2. Use min. 14 characters (uppercase, lowercase, special characters and numbers)
3. Use two-factor authentication

Social engine

1. Take a ste
2. Reality ch
3. Check us

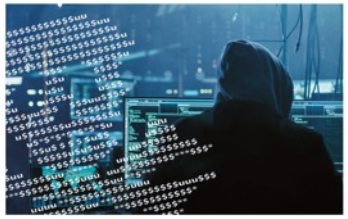
The No More R

You c

Check if you

Hack The Hacker – tips

Recommendations for hacker-hackers



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Use min. 14 characters (uppercase, lowercase, special characters and numbers)

It takes less than two minutes to crack a five-character password made up entirely of lowercase letters. The longer and more complicated a password is, the less likely it is to be cracked.

Choose two-factor authentication (2FA)

Many online services offer the option of logging in using two-factor authentication (2FA). Activate this option whenever possible.

What is a password hash?

In order to store passwords as securely as possible, a hash function is used to transform the plain text into a hash value. If the password is entered, the same hash function is used to calculate its hash value and compare it with the one stored. If the password hash is the same, the password is correct.

Take a step back

Don't allow yourself to be put under pressure. Don't tell anyone else your passwords. Don't discuss internal matters with anyone who isn't involved. If you're not sure, ask – clarify the sender/your counterpart's identity and permissions.

Reality check

If an offer seems too good to be true, it's worth being a little suspicious. Look for references for the website making the offer or verify the existence of the competition you've won.

Query it

In general, if something seems off, query it over a different communication channel to make sure.

SOCIAL ENGINEERING

Black hats don't just hack computers, they also hack people. This method is known as social engineering. Using psychological tricks, they attempt to gain information via email, phone or in person.

PASSWORDS

A strong password is key to protecting our (personal) data.

Choose unique passwords

If black hats gain access to one of your passwords, they'll test it quickly and automatically to see whether it can be used to access other online platforms. Never use a password more than once.

The HACKER TRACKER 3X3

The HACKER TRACKER 3 x 3

Social media profiles

1. Check security settings
2. Restrict profile visibility
3. Share data sparingly

Data traces

1. Use private browsing
2. Switch off automatic location t
3. Alternative providers: Threema

On the move

1. Use a VPN (virtual private netw
2. Use a privacy screen filter
3. Lock your screen

iB

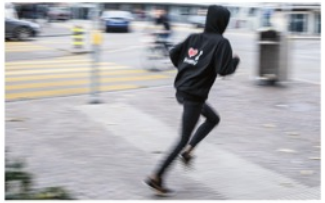
You can find useful informa

https:/

All content is available unde

Track The Hacker – tips

Recommendations for hacker trackers



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Switch off automatic location tracking

Most of your apps work even without constant location requests. Only switch on location tracking when you really need it.

Alternative providers

Threema, Tor Browser, etc.

Find out about alternative providers who collect less data from you and don't share it with other providers.

Protect data when you're on the move

When we're on the move, our data is more at risk compared to when we're at home or at work.

Use a virtual private network (VPN) for browsing

Use a VPN if you're browsing using unknown or even public wifi networks. This guarantees that any data you transmit will not be captured.

Use a privacy screen filter

If you're working in a busy, public place, a privacy screen filter helps you to protect yourself from people reading over your shoulder uninvited.

Lock your screen

If you're leaving your laptop even for a short time, lock your screen so nobody can access your data.

Domain Name System (DNS)

The DNS is the internet's address book. It allows computers to look up the appropriate web addresses for domain names such as "switch.ch" (e.g. 2001:620:0:ff::5c), so these DNS queries can reveal what webpages are being visited as long as the web traffic (e.g. over a VPN) is not encrypted.

Virtual private network (VPN)

A VPN (or virtual private network) is a secure tunnel between two or more devices. VPNs are used to protect privacy and stop your web traffic from being intercepted in a public network.

Online data traces

When we use the internet, we leave data traces behind without noticing through the webpages we access from specific locations.

In most cases, this data is collected to optimise our digital experience. But, sometimes, it's used for more besides.

Use private browsing

Use your browser's incognito mode so that opened webpages and downloaded data are not recorded in your browsing or download history. Cookies are deleted after the private browsing window is closed.

Our super amazing wonderful traditional charming classic cake recipe

Prep time: 20 min.
Bake time: 50 min.
For a 30 cm cake tin

150 g flour
180 g sugar
200 g ground almonds
100 g almonds
1 sachet vanilla sugar
3 tbsp cocoa powder
1 tsp baking powder
¼ tsp salt

3 eggs
100 ml strongly brewed coffee
100 g butter, melted

Glaze

150 g icing sugar
2½ tbsp strongly brewed coffee
40 g almonds, roughly chopped

A piece of cake – tips

Recommendations for social engineers

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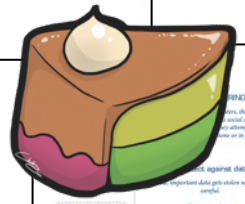

How to protect yourself against psychological tricks

Criminals use psychological tricks to manipulate us. They take advantage of emotions such as stress, fear, or love to put pressure on us and hinder our ability to think critically.

Take a step back

Don't allow yourself to be put under pressure. Never share your passwords with anyone. Only discuss internal matters with the persons involved. If you're not sure, ask – verify your counterpart's identity and permissions.

Reality check

If an offer seems too good to be true, it's worth being a little suspicious. Look for references for the website making the offer or verify the existence of the competition you've ostensibly won.

Query it

The rule of thumb is: if something feels 'off', check the facts by asking questions via another channel of communication and verifying your counterpart's identity.

The ingredients of social engineering

Fear: Criminals like to use threats that they claim will become real if we fail to act immediately.

Desire/temptation: Criminals try to tempt us with promises that we could easily have something desirable or that they are offering us something exclusive.

Helpfulness: We all want to be good colleagues, good friends and good people. Which is why criminals take advantage of our willingness to help.

Pressure: Criminals pose as an authority figure (e.g. police officer or boss) and ask us to disclose sensitive information or trans fer money.

Fun fact:

After Benjamin Hill tried unsuccessfully to start a career as a lawyer, he began digging through the rubbish bins of different law firms. He took documents from cases involving famous people and sold them to the press to earn a living.

Dumpster diving

Take care with printed documents. Documents in the waste bin can always be taken back out. For this reason, always be sure to shred important documents once you no longer need them.

Shoulder surfing

Always be mindful when you are working in public places or desks where you can be observed by strangers. Lock your screen as soon as you leave your desk and use a screen protector whenever you work in public.

Eavesdropping

Be mindful of who could overhear your conversations in public. In places where powerful people tend to meet up in particular, criminals or even journalists could be lurking around waiting to gather sensitive information. Never name names and always look for an isolated spot to have a phone call.

iBarry

You can find useful information about security topics at:

https://ibarry.ch/en/

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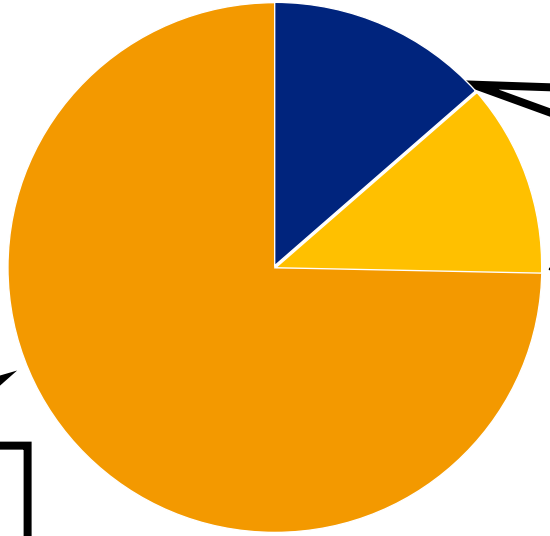
POLIZEI

Katja Dörlemann
Margrith
Verkäuferin
Kelly
Bäckerin
Elliot
Lehrling

SWITCH

SWITCH Security Awareness Adventures



EDUCATION
Teaching new skills and the theory behind them

AWARENESS
Increase awareness and interest in a specific topic

TRAINING
Teaching and practicing (new) skills

What we can do

→ Raise (long term) interest in security

→ Encourage users to deal with IT related topics

→ Improve the reputation of the security department

→ Improve teamwork

What we can’t do

→ Train a high number of employees in a cost-effective way

→ Optimise it to a cost-effective training tool

→ Quickly adapt to new topics

Questions?

awareness@switch.ch

SWITCH Security Awareness Day 2022
26th October in Berne (hybrid)

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