

Serious Gaming: The Security Awareness Escaperoom

A gamified approach to cyber security awareness training



The **human factor** is one of the most important factors within the field of cyber security. To secure an organization in the digital domain, it is imperative that all its employees are aware of **risks**.

To foster awareness, Deloitte has developed a **serious learning experience** in the form of an escape room game. The game is set up for a maximum of **5 to 6 participants** per rotation. Employees are dared to solve **7 challenges** within **20 minutes** to complete the game. In the scenario participants are asked to unlock a laptop that is infected with ransomware to safeguard important company data.

All challenges test participants on their security knowledge and teach secure behavior. The challenges cover the following security subjects:

- Phishing mails
- Data classification
- Social Engineering
- Secure passwords
- Secure Wi-Fi use
- Secure device handling
- Data sharing
- Dumpster diving

Depending on the organization's (branding) preferences, game and challenges can be customized to highlight their priorities. The game was developed to be robust and portable. It can be set up in any meeting room, since it requires little more than a table, a video screen, and a trash can.

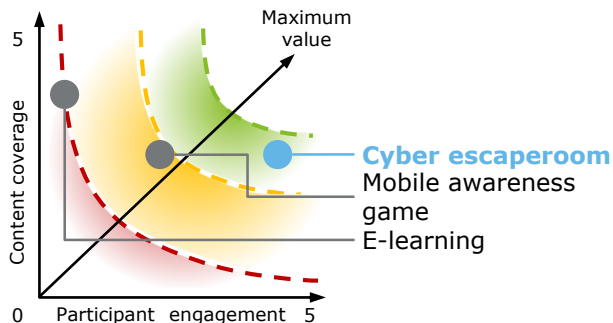


How people learn and change behavior

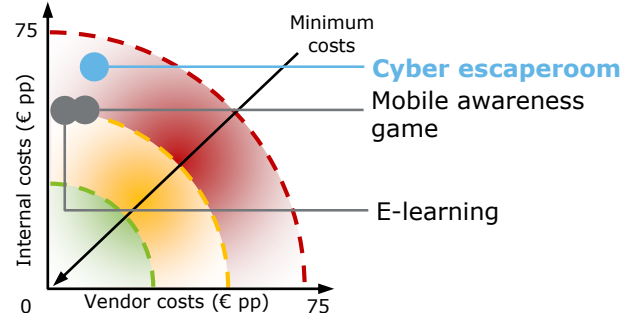
Escape Room as an (cost) effective learning approach

Effective learning model	4 Learning styles	A.G.E.S model for change
<p>70:20:10 principle</p> <p>70% on the job learning, learning by doing 20% learning and developing through interaction 10% learning through structured courses and training</p> <p>(Lombardo & Eichinger, 1996)</p>	<p>Learning styles</p> <p><i>Activists:</i> learn by doing. <i>Theorists:</i> seek to understand the theory behind the action <i>Pragmatists:</i> want to know how to put what they're learning into practice in the real world <i>Reflectors:</i> learn best by watching people and thinking about what is happening</p> <p>(Honey & Mumford, 1982)</p>	<p>AGES model</p> <p><i>Attention:</i> sufficient attention to the learning, brain tends to lose focus after 20 minutes <i>Generation:</i> process of creating your own connections to new ideas. <i>Emotion:</i> positive emotional arousal activates our brain and accelerates the formation of new memories. <i>Spacing:</i> memories grow over time, people remember best when learning is spaced out over time (and includes one or more nights of sleep).</p> <p>(Neuroscience Institute)</p>

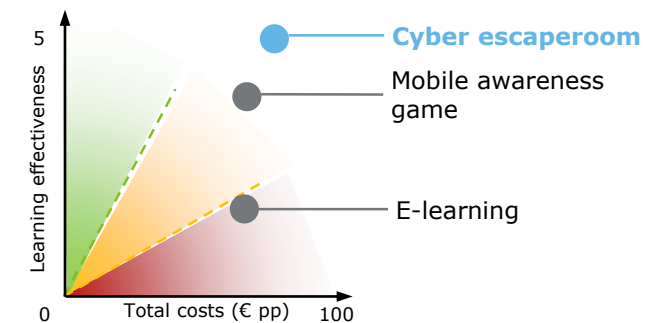
Learning effectiveness



Total costs

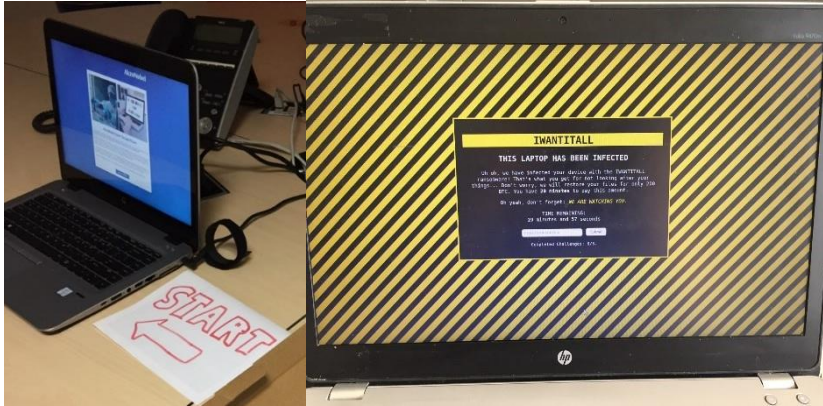


Learning vs costs

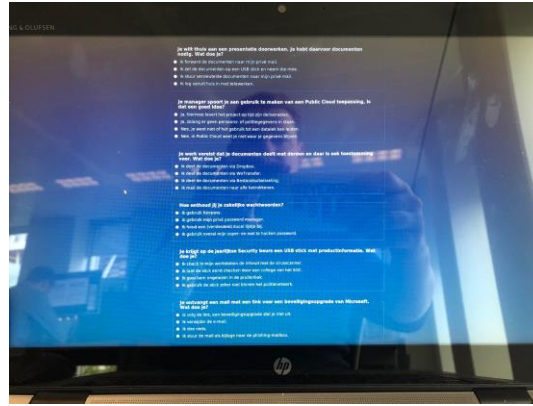


Challenges

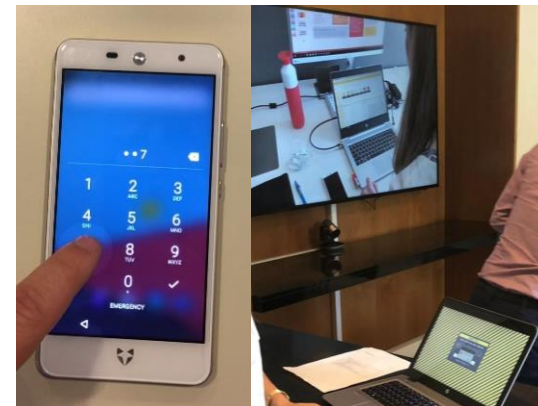
7 challenges and 1 time-waster



Instruction laptop



Quiz



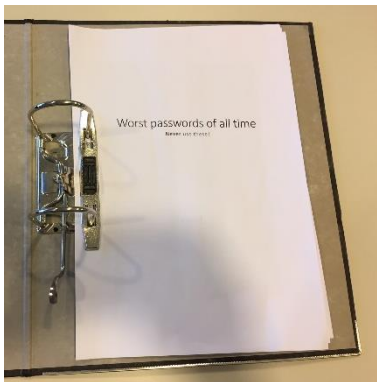
Shoulder surfing



USB device



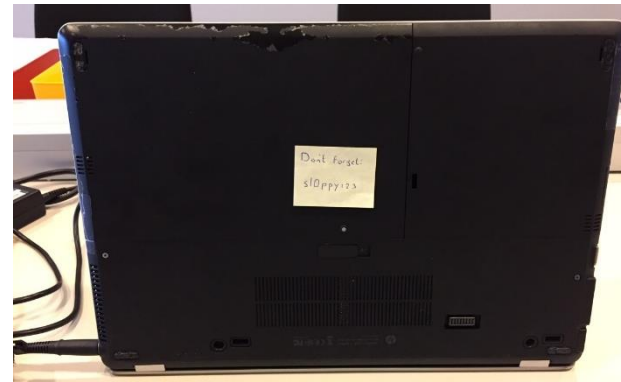
Webcam



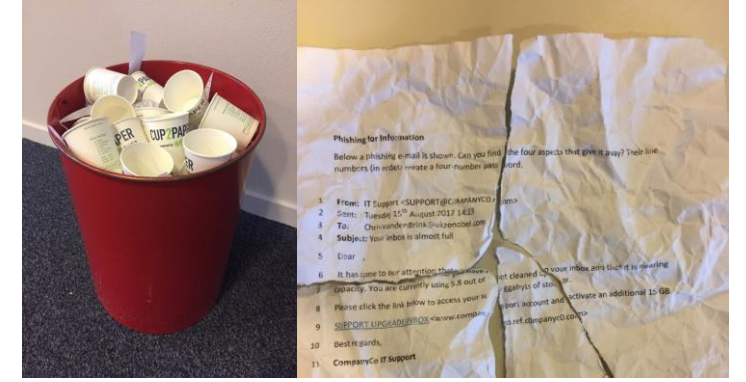
Worst passwords



Sort it out



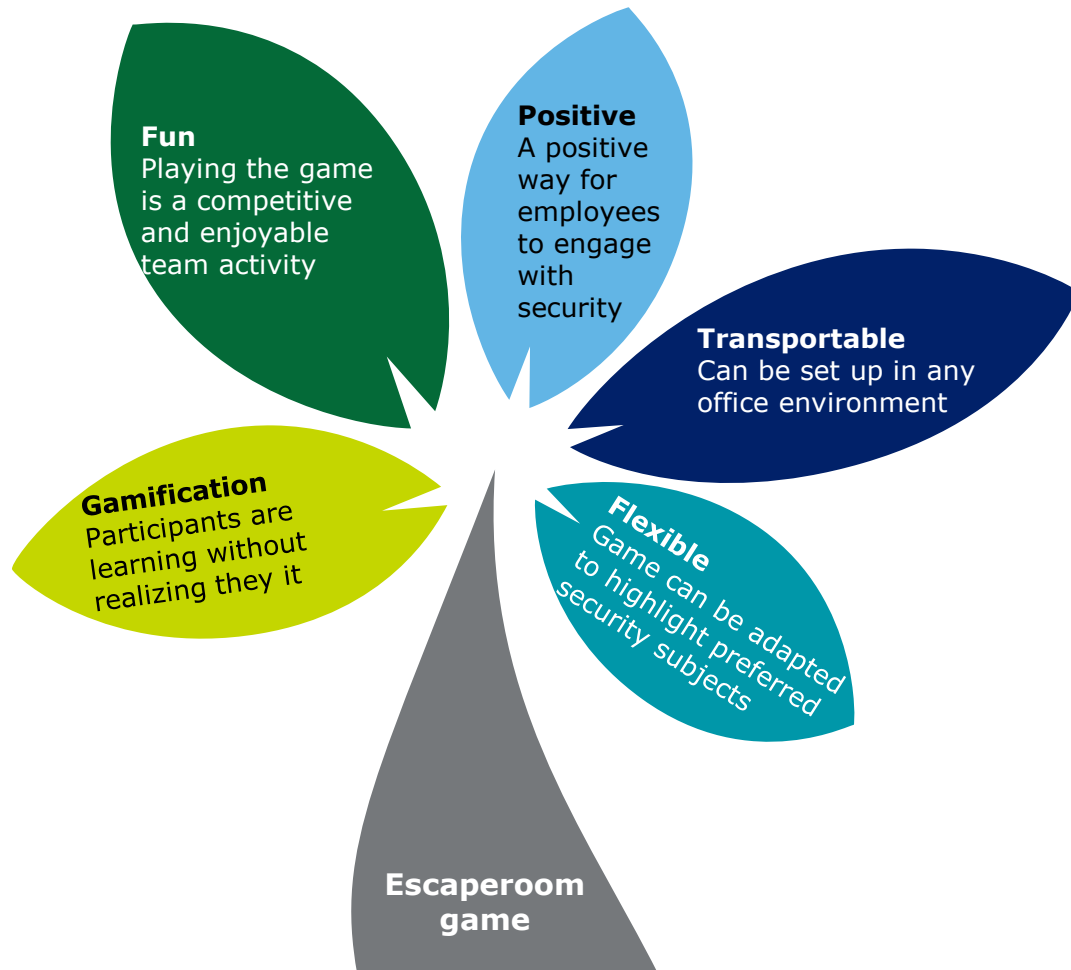
Sloppy



Phishing for information

Advantages

Gamification in action



Financial proposal

For your request of escaperoom game as a service



Service	Estimated effort (days)	Fee
Escaperoom game as a service (per day): <ul style="list-style-type: none">• Setting up the room on location• Running and resetting the game• Taking down of the game for 1 day	4	€ 6.000,00
+ Branded version	1	€ 1.500,00
+ Tailored challenges, time and testing new configuration	1	€ 1.500,00
Total		€ 9.000,00

This service does **not include**: Internal promotion of the Escaperoom game, location, and space (though this can be added for an additional fee)

These prices listed are excluding VAT and including travel expenses in the Netherlands.

Financial proposal

For your request of escaperoom game as a product



Product	Estimated effort (days)	Fee
Escaperoom game as a product: <ul style="list-style-type: none"> • Alignment • Preparing the hardware • Testing the game • Training client facilitators • Intellectual property • Simple customization 	12	€ 21.000,00
+ Hardware costs	-	€ 1.250,00
Total		€ 25.000,00

Product	Estimated effort (days)	Fee
Escaperoom game license (6 days of support per year): <ul style="list-style-type: none"> • Repairs of the hardware • Update the game with new features • If during the year the total budget of the license is not completely used, hours can be used for other activities like additional trainings or develop new challenges 	6	€ 10.000,00
Total		€ 10.000,00

This service does **not include**: Internal promotion of the Escaperoom game, location, and space (though this can be added for an additional fee)

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