Board Games as Security Awareness Improvement Tools

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- Lead consultant at a Hungarian information security consulting enterprise
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- Certificates: CISA, CISM, CRISC
- Research area: human factor in information security, Social Engineering, security awareness measurement and improvement
- Interested in gamification: security awareness escape room, security awareness boardgame
Importance of Security Awareness

- Human factor is the weakest link in the chain of security...
- We are all attractive targets... Why? →
- **Social Engineering attacks**: deceiving and manipulating users
- „Small pieces” of data could be even so valuable
- **Rapid changes** in digital world could be lead to new threats and vulnerabilities
Traditional Security Awareness Improvement Methods

- Personal trainings, workshops
- Online presentations (video-conferences)
- E-Learning materials
- Campaign elements (posters, newsletters, etc.)
What can we do for better user experience and success?
Using Gamification in General

- **Points, scores** *(order something to gather extra points)*
- **Challenges** *(run 15K in a given time period)*
- **Levels, achievements** *(unlock new levels)*
- **Leatherboards** *(see where are you in a competition)*
- **Badges** *(drive for X points to be a King, or reach a goal to take a badge on your profile)*
- **Online games**
- **Mobile applications**
Security Awareness Escape Room

- You have 30 minutes to find an open the file TOPSECRET.pdf to escape the room
- Only security awareness knowledge
- Use documents, photos, devices, smartphones, dumpster, and even social media sites
Everyone loves to play!
Concept of an Own Security Awareness Board Game

Character cards with exploitable traits
Assets have to be protected
Timeline and security awareness meter symbolizing a workday
Mission cards defining goals
Game board symbolizing an office

Security awareness knowledge cards to show rules and recommendations
Action cards To show threats and risks
And a dice to need a little bit of luck 😊
Goals of the new game:

- Applying strategic-cooperative approach.
- Enable cooperative and competitive playing modes.
- Fit for organizational environment and private life.
- The game should highlight exploitable human traits.
- The game should introduce assets have to be protected.
- The game should teach security awareness and useful countermeasures.
- The game should show threats, attacks affecting human factor.
- At the workplace could be played with instructor.
- At home could be played alone (without instructor).
- Support demo mode (applying time limit).
- Be realistic, but stay game (players need sometimes luck).
- Be commercially available, like traditional board games.
- The game should be expandable with accessories.
Ongoing Research About Evaluating Security Awareness Improvement Methods

Which are the most effective security awareness improvement actions?
Testing 6 methods (shown in next slide) with the following requirements:
- time limit 30 minutes
- same content (10 predefined knowledge elements)
- same instructor/presenter

Involved 10 organizations, each with 30 employees.
Steps of the tests:

1. Fill out Survey 1
2. Participate in event
3. Fill out Survey 2
4. Fill out Survey 3
5. Evaluate results

Which are new security awareness knowledge elements came from participated method?
Results in progress

**SELECT PLAYER...**

- **PERSONAL TRAINING**
- **ONLINE TRAINING**
- **E-LEARNING**
- **CAMPAIGN ELEMENTS**
- **ESCAPE ROOM**
- **BOARD GAME**

**START GAME**

**LOADING...**

End of research and results: 2022 Q1

*But we can see:*
- Gamified elements are more popular
- Personal programs are more effective and interesting
- Users are interested in security awareness board game
Thank you!

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