Gamification for IT Security Training and Awareness Programs

• 31st Annual Conference, March 14, 2018
Greg Walters, Associate General Counsel

Peace Corps
3 Goals

• Understand Gamification Completely

• See how it is used -- Everywhere

• Add it to the agenda for your next office meeting
Why Learn?

• Be aware that it is all around you.

• Use it and be more effective.

• Realize what is truly ineffective (wasting time).

• Consider the alternatives.
I. Clichés and Definitions

- Life is a Game
- Game the System
- Running my Game

- But... Cybersecurity is not a Game!
Finding the Fun

• “In every job that must be done, there is an element of fun.”

• “You find the fun and snap! The job’s a game.”
FUN

• “Gamification is ... taking what’s fun about games and applying it to situations that maybe aren’t so fun.” Quote from Gabe Zichermann, The Gamification Revolution
Gamification

• “At its core, gamification is about engaging people on an emotional level and motivating them to achieve their goals.”

• From Brian Burke: Gamify: How Gamification Motivates People to Do Extraordinary Things.
Gamification?

• Awkward word by design (!)
• It is in version 2.0 or 3.0 already.
• Could use phrase “Game-Type” thinking.
• Or say “Type of Behavioral Economics.”
• Whatever you call it, it is all around us.
• UBIQUITOUS
Points, Badges, Leaderboards

- Focus is on audience (employees, clients, co-workers, etc...)

- Emotions

- What engages an audience – makes them feel accomplished?
Mature Gamification

• “Effective gamification is a combination of game design, game dynamics, behavioral economics, motivational psychology, UX/UI (User Experience and User Interface), neurobiology, technology platforms, as well as ROI-driving business implementations.” Yu-kai Chou
II. History
Napoleon
Revolution
Theodore Roosevelt
The New Normal
III. Examples
Game the EVS

TAKE THE EVS TODAY

EMPLOYEE VIEWPOINT SURVEY

TOP 5 OFFICES WITH HIGHEST COMPLETION RATE: RANKINGS AS OF 5/20/16

1. OSPM - 81%
2. ODEEO - 65%
3. OLHCHH - 65%
4. PD&R - 54%
5. OCPO - 49%

If you can’t find your link, you can contact OPM directly at EVH@opm.gov and they will send you a new one.

EMPLOYEE VIEWPOINT SURVEY
IT’S QUICK AND EASY!
Rise and Repeat

• (1) Cellphones, Computers and the Internet Create....

• (2) Big Data. And then we have...

• (3) Gamification of Big Data (repeat)
Information Monitored
PLEDGE TO DRIVE LESS THIS SUMMER & WIN!
• Did not call it a game
• Did not add princesses, pigs or angry creatures
• Did have instant feedback
• Did use a threshold and target
Supermarket Check Out
Gamification Fail

• Hotel used leader board to measure speed and effectiveness of housekeeping staff
• Pregnant employee had trouble keeping up, and demoralized workers called it “the electronic whip.”
• NOT FUN for Anyone!
More Fail

• Owner (of a chain of stores in Iowa) asked employees to pick which cashier was next to be fired. Correct guess wins $10.

• NOT FUN!
White Chocolate Mousse Cake
IV. Theories
Dopamine

Frontal cortex

Striatum

Substantia nigra

Nucleus accumbens

VTA

Hippocampus
Video Games
What is so Appealing....

• Alternative Reality (where there are rules)
• Where it is fair.
• We can win.
• We can be recognized.
• We can try again.
• We can get better.
Memories

- You are it
- Tag
- Bridge
- Poker night
More Reasons

• Social Status Theory -- Earn Acceptance

• Cultural model – how we interact

• We naturally break big tasks into small ones. Accomplish each one & enjoy victories.
Millennials

• Continuous exposure to positive reinforcement
• Games – phone & video – PewDiePie YouTube
• Their world offers them more ways to earn trophies
• Other world view “strong work ethic” – Teddy Roosevelt – belongs to receding generations...
• We are all Millennials now (YOUTH/TECH Culture)
V. What is Available Now ($)
PwC Gamification

*PwC turns cybersecurity into a serious Game of Threats*
High Tech v. Low Tech
Information Security Game
Confidential Information Game

CONGRATULATIONS!

You’ve just found a Golden Ticket. And by finding it, you’re entitled to a fabulous prize. All you need to do to get it is report this Golden Ticket by using our process for reporting misplaced confidential information.

HERE’S WHAT TO DO

Click on this box to edit it, and type up your company’s process for handling unattended information.

For example, should employees:

- Call the Ethics and Compliance Helpline?
- Report it to their manager?
- PDF a copy to a designated email inbox?

Whatever it is, make sure you include the same description in your email announcing the Golden Ticket activity in order to drive a consistent message.

That’s it! Once you’re done, just sit tight—we’ll get you your prize soon.
Low/No Cost

• Kahoot.com
• Theteacherscorner.net (crossword puzzles, wordsearch, mazemaker etc...)
• Print-Bingo.com
• superteacherworksheets.com
• Amazon.com – Raffle Tickets, “Trophies” Medals, (plus Candy) etc... for Contests...
Key Points

• Player’s motivations and goals are first priorities

• Organization’s motivations and goals are second

• Where the two overlap is the “goal,” outcome and the value of the activity for the organization

• Break goal into steps with encouragement along the way
Cybersecurity Program Goals

• Training – Required by Law or Policy
• Increase Awareness of Program
• Creation of IT Security Culture in Agency
• Increase Morale
• Support Employee Engagement and Investment in Company and its Staff
Takeaways

• Don’t only focus on points, badges and leader boards & cash.

• Do add other elements like stories and goals.

• Do make it a social activity and more positive reinforcement.
Where is the Fun?

• Fun
Alternatives To Gamification

• Criticisms of the Idea?

• Programs Without Any Game Elements – Good Idea?

• Could a program be effective without any element of fun?
VI. SUMMARY

• Gamification has always existed, it works and is here to stay, especially with the largest generation: Millennials.

• Focus on the employee’s emotional engagement (i.e. where is the FUN?)

• **Add Gamification to your agenda** -- The IT Security community needs a community of serious game players...