

ONLINE WORKSHOP ON PRIVACY USING



A SOCIAL ENGINEERING WARGAME

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Social networking is the new

emailing

texting

IMing

blogging

photo sharing

...

Social networking seems to be easy...



McAfee Blog Central

Corporate McAfee Labs Enterprise Consumer

Consumer : < Previous post in Consumer > Next post in Consumer >

Actress Sofia Vergara's Personal Photos Hacked or Stolen Via Mobile

Monday, October 29, 2012 at 11:26am by Robert Siciliano

In my line of work I get emails such as this one: "Hi Robert, I'm not sure if you saw what had happened on my Facebook page last night, but someone stole my cell phone while I was at a concert, and posted all of my naked pictures off of my phone and posted them to my wall. They were up there for hours."

Apparently if you are under the age of 40 this is common place. After the age of

Her respo someone: The probl extort th The NY P being all persona the cou In both Have y be a n mobile

About Me
 Robert Siciliano
 Online Security and Safety Evangelist to McAfee Robert is an identity theft expert who is committed to ... [Read More](#)

Consumer Blogs

- Consumer Threat Alerts (25)
- Consumer Threat Notices (6)
- Cyber Security Mom (182)
- Cyber Security Mum - Australia (41)
- Cyber Security Mum - India (65)
- eCommerce (20)
- Family Safety (96)
- Identity Theft (153)
- Mobile - Consumer (59)

Forbes - New Posts Popular Lists Video

SECURITY | 10/25/2012 @ 4:39PM | 23,811 views

Facebook Investigating How Bulgarian Man Bought 1.1 Million Users' Email Addresses For Five Dollars

Updated with a more recent comment from Facebook

40 Things To Say Before You Die +21,251 views

One Man, One Computer, 10 Million Students: How Khan Academy Is Reinventing Education +19,679 views

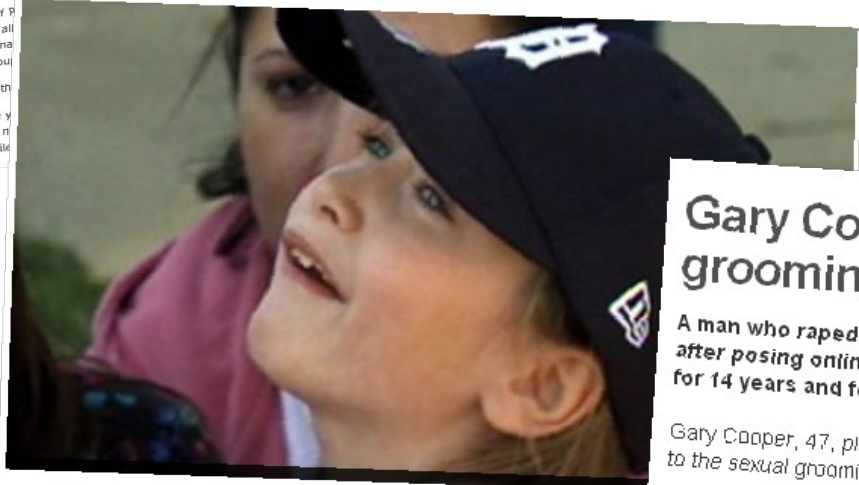
Donating Star Wars Billions Will Make George Lucas One Of The Biggest Givers Ever +14,860 views

'Halo 4' Is Easily One Of The Best Looking Xbox 360 Games Of All Time +14,537 views

17 comments, 9 called-out + Comment now

Cyber-bullying highlighted in death of 9-year-old girl

By Dr. Manny Alvarez / Dr Manny's Notes / Published January 12, 2012 / FoxNews.com



It was with a heavy heart that I read Thursday about Kathleen Edwards, a 9-year-old girl from Michigan with Huntington's disease. Kathleen's story received national attention when, in October 2010, she was cruelly taunted by her grandmother's next door neighbor.

Japanese banks hit by phishing cases

Summary: Police suspect the scams are being carried out via a new method--PC viruses, where only users with infected computers get fake pages displayed.

By Ellyne Phneah | October 29, 2012 -- 04:52 GMT (21:52 PDT)

Follow @ElyZDIetAsia

Gary Cooper jailed for rape after online grooming

A man who raped a 12-year-old girl from Hampshire after posing online as a teenage girl, has been jailed for 14 years and four months.

Gary Cooper, 47, pleaded guilty at Winchester Crown Court to the sexual grooming and rape of the girl.

Cooper, of Windsor Drive, Hertford, fabricated a profile in a social network site in which he purported to be a 15-year-old girl called Chantelle.

Passing sentence, the judge called Cooper "highly manipulative".

The court heard Cooper had met his victim in Hertfordshire, via Essex, where he raped her.

After being reported missing, the girl was found by Hertfordshire Police the following morning.

A police investigation uncovered Cooper's identity.



HAMPSHIRE CONSTABULARY
 Cooper fabricated a profile in a social network site to meet his victim

...but plenty of unforeseen problems.

Learning about privacy is **hard**.

Privacy concerns are boring



It's not easy to balance the trade-off
between **security** and **usability**



Most of the materials are children-oriented



Social Lab tackles some of these problems
providing a social engineering wargame

Social engineering

The art of manipulating people into performing actions or divulging confidential information.



It works because
there is no patch for human stupidity



Purpose of the game



Learn some of the techniques used by social hackers



Prevent these kind of attacks in real social networks

Wargames

Security challenges in which players must exploit a vulnerability in an application or gain access to a system.

The screenshot shows the HackThisSite.org homepage. At the top, it says "YOU'VE BEEN OWNED!" and "HackThisSite.org". Below that, there's a navigation bar with "Home", "Forum", "Help", "Sign", "Like Us", and "Follow Us". The main content area features a "Training the hacker underground" article, a "SHORT NEWS" section, and a "LATEST ARTICLES" section. There's also a "DONATE" button and a "Login" form.

The screenshot shows the SmashTheStack.org website. The header says "SMASH THE STACK WARGAMING NETWORK" and features a cartoon monkey logo. Below the header, there's a navigation bar with "Main", "Wargames", "Forum", "WebSSH", "IRC", "FAQ", "Register", and "Login". The main content area has a "WarGames Status: Announcement" section, an "RSS Feed" section, and a "Smash The Stack" section. There's also a "Coming Soon..." section.

The screenshot shows the OverTheWire.org website. The header says "OverTheWire" and features a cartoon monkey logo. Below the header, there's a navigation bar with "News", "Wargames", and "About". The main content area has a "Wargames" section with a description: "The wargames offered by the OverTheWire community can help you to learn and practice security concepts in the form of fun-filled games. To find out more about a certain wargame, just visit its page linked from the menu on the left." There's also a "Coming Soon..." section.

The screenshot shows the BrightShadows.net website. The header says "Bright Shadows" and features a cartoon monkey logo. Below the header, there's a navigation bar with "Home", "News", "Challenges", "Ranking", "My Account", "Forum", "Search", "Chat", "Private Msg's", "Vulnerable Code", "Downloads/Scripts", "Support Us", "Links", "Contact/FAQ", "Logout", "Heslamm", "crescimo", "Zaphod", and "Baubhi". The main content area has a "Challenges (all - none)" section with a table of challenges and a "Solved?" column.

Challenges (all - none)	Votes	D	C	E	P	#	Solved?
1: First one and very easy to do.	2549	0.7	1.5	2.2	3.2	10072	not Done
2: Often used but easy to solve.	1654	2.4	3.3	3.7	3.8	6854	not Done
3: Hard but possible.	680	4.3	5.1	4.5	4.4	3659	not Done
4: Easy script	597	3.6	4.9	4.3	4.4	3148	not Done
5: Easy script	918	2.6	3.6	3.5	3.7	5082	not Done
6: Isn't that easy :-)	615	3.9	5.2	4.6	4.5	3446	not Done
7: Script Kiddies [made by DeathSpam]	569	3.9	4.7	5.1	4.5	3160	not Done
8: Encryption is everything	369	5.8	5.9	6.2	5.4	1614	not Done
9: Find y'ur wdy [made by Caesum]	154	7.9	8.6	7.8	7.3	581	not Done
10: Treasure your smiley! [made by relee]	52	9.6	9.6	9.0	9.8	116	not Done
11: The True Knight [made by BaRa]	110	7.9	8.4	7.6	8.8	298	not Done
12: Gambit [made by cyph1e]	82	6.4	6.7	6.2	6.2	295	not Done
13: Amazing [made by cyph1e]	52	8.3	9.1	7.9	9.4	129	not Done

The screenshot shows the Try2Hack.nl website. The header says "TRY2HACK" and features a cartoon monkey logo. Below the header, there's a navigation bar with "HOME", "NEWS", "FAQ", "RULES", "CHAT", "CREDITS", and "START!!". The main content area has a "Welcome to try2hack!" section with a description: "This site provides several security-oriented challenges for your entertainment. It is actually one of the oldest challenge sites still around :)" There's also a "Good luck and have fun!" section.

Wargames

"hacker sandboxes"





The wall of Pablo Garaizar

Update status



Hello, world!

Delete

Pablo Garaizar (less than a minute ago)

- Wall
- View profile
- Edit profile
- Requests (0/0)
- Messages (0/1)

Friends (0)

Search friends

Pictures

Pages

Social engineering wargame

A privacy challenge in which players must gain access to user profiles in a "social sandbox" (a fake social network)

How to play Social Lab

 Sign in

 Sign up

 What is Social Lab?

 Terms of Use

 About

Sign up

Username

garaizar

Password

●●●●●●●●●●

Password confirmation

●●●●●●●●●●

 Sign up

1. Sign up

[Sign in](#)[Sign up](#)[What is Social Lab?](#)[Terms of Use](#)[About](#)

Welcome to Social Lab!

Social Lab is **NOT** a real social network. If you want to know what it is, [click here](#) ;)

Sign in

Username

Password

Remember

2. Sign in



Welcome to Social Lab!

X Mark as read

**Your first assignment as a social hacker
will be to become a friend of [Alice
Johnson](#).**

Good luck! ;)

Social Lab (less than a minute ago)

3. Solve social challenges

All the challenges are **automated profiles** with **fake**
personal information...

(disclaimer: no privacy was harmed in the making of this site)

... but real interactions between players are also
possible

(and can affect the results of the game)



Friendship request

Asking **Alice Johnson** to be a friend...

Hi Alice!

Send request

Wall

View profile

Edit profile

Requests (0/0)

Messages (0/1)

Friends (0)

Search friends

Pages

Each time a **friendship request** is made, Social Lab **checks** if it involves an automated profile and if that is the case, it **schedules a task**

Currently, Social Lab provides a
10-level wargame of increasing difficulty

Using Social Lab's challenges we designed an
online workshop on privacy





Online workshop on privacy using Social Lab

by Cátedra Telefónica - Deusto

[Manage this Course](#)
[i](#)
[0](#)
[Share](#)

CURRICULUM

SECTION 1 ARE YOU AWARE OF YOUR ONLINE PRIVACY?

LECTURE 1: Your Digital Identity 15 slides

SECTION 2 CREATING A PROFILE IN SOCIAL LAB

LECTURE 2: Signing up 03:16

LECTURE 3: Social Lab: Basic usage 06:40

SECTION 3 SOLVING THE PRIVACY CHALLENGES

LECTURE 4: Level 1 01:57

LECTURE 5: Level 2 03:02

LECTURE 6: Level 3 02:38

LECTURE 7: Level 4 03:32

LECTURE 8: Level 5 02:25

LECTURE 9: Level 6 03:24

LECTURE 10: Level 7 01:07

LECTURE 11: Level 8 01:07

LECTURE 12: Level 9 03:54

SECTION 4 ASSESSING YOUR ATTITUDE TOWARDS ONLINE PRIVACY

AVERAGE RATING No Reviews

ANNOUNCEMENTS [Make an Announcement](#)

No announcements have been made so far

QUESTIONS [Technical Support](#)

Type your question about this course

No questions have been asked so far

Hosted at Udemy

Digital Identity and Privacy on Social Networks

Online workshop on privacy using Social Lab, a social engineering wargame

Slideshows



Universidad de Deusto
University of Deusto

Deusto



Psicología Experimental y Ciencia de Internet
Experimental Psychology & Internet Science





Friendship request

Asking Alice Johnson to be a friend...

Hello Alice! I'm you



Send request

Wall

View profile

Edit profile

Requests (0/0)

Messages (0/1)

Friends (0)

Search friends

Pictures

Pages

Tutorials



Internet Privacy Questionnaire linked to Social Lab's workshop

* Required

PART I - Privacy behaviour factor loadings

General Caution *

	Never	Rarely	Sometimes	Often	Always
Do you shred / burn your personal documents when you are disposing of them?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you hide your bank card PIN number when using cash machines / making purchases?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you only register for websites that have a privacy policy?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you read a website's privacy policy before you register your information?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you look for a privacy certification on a website before you register your information?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you read license agreements fully before you agree to them?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Assessments

(Buchanan, Paine, Joinson, & Reips, 2006)

Currently we offer:

A free online workshop on
privacy using Social Lab:

Slideshows

Tutorials

Assessments

Demo servers:

English version: <http://en.sociallab.es>

Spanish version: <http://es.sociallab.es>

German version: <http://de.sociallab.es>

Basque version: <http://eu.sociallab.es>

Info about the project:

<http://www.sociallab.es>

Social Lab's code:

<https://github.com/txipi/Social-Lab>

www.sociallab.es

References

- Leiner, B.M.; Cerf, V.G.; Clark, D.D.; Kahn, R.E.; Kleinrock, L.; Lynch, D.C.; Postel, J; Roberts, L.G.; Wolff, S.S. (1997). The past and future history of the Internet. Communications of the ACM. Volume 40 Issue 2, pp. 102-108.
- Gross, R.; Acquisti, A.. (2005). Information Revelation and Privacy in Online Social Networks. School of Computer Science & School of Public Policy and Management, Carnegie Mellon University.
- Dhamija, R.; Tygar, J.D.; Hearst, M. (2006). Why Phishing Works. Harvard University - UC Berkeley, pp. 1-8.
- Festl, R.; Quandt, T. (2012). Social Relations and Cyberbullying: The Influence of Individual and Structural Attributes on Victimization and Perpetration via the Internet. (Human Communication Research) University Hohenheim - University of Münster.
- Donegan, R. (2012). Bullying and Cyberbullying: History, Statistics, Law, Prevention and Analysis. Elon University, pp. 36-39.
- Gottschalk, P. (2011). A Dark Side of Computing and Information Sciences: Characteristics of Online Groomers. BI Norwegian Business School. Journal of Emerging Trends in Computing and Information Sciences, pp. 447-451.

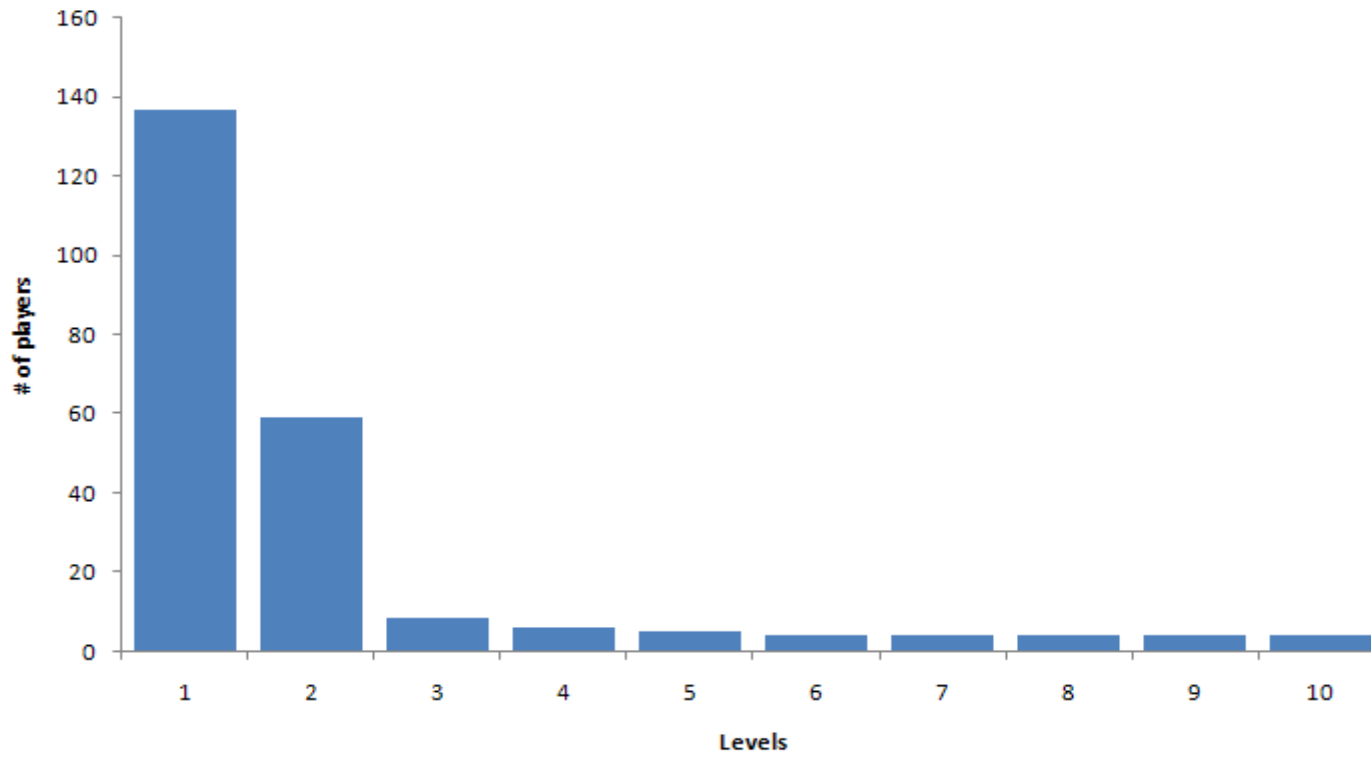
References

- Nooriafshar, M. The Evolution of Learning Methods and Facilities with a view to Internationalising Education. Faculty of Business, University of Southern Queensland, pp. 4-5.
- Plautus (195 BC). *Asinaria*.
- Mackness, J., M.; Williams, R. (2010). The ideals and reality of participating in a MOOC. Proceedings of the 7th International Conference on Networked Learning, University of Lancaster, Lancaster, pp. 266-275.
- Buchanan, T., Paine, C., Joinson, A. N., & Reips, U. D. (2006). Development of measures of online privacy concern and protection for use on the Internet. *Journal of the American Society for Information Science and Technology*, 58(2), 157-165.

References

- Meeker, M., Devitt, S. & Wu, L. (2010, June 7), Internet Trends, Morgan Stanley Research. Retrieved from: <http://www.slideshare.net/CMSummit/ms-internet-trends060710final>
- Johnson, M. (2011). Winning the Cyber Security Game. MediaSmarts, Media Awareness Network. Retrieved from: <http://cira.ca/assets/Documents/Publications/WinningCyberSecurityGameLesson.pdf>
- Johnson, M. (2011). Privacy Pirates: An Interactive Unit on Online Privacy. MediaSmarts, Media Awareness Network. Retrieved from: <http://mediasmarts.ca/blog/privacy-pirates-interactive-unit-online-privacy>
- Johnson, M. (2011). From Passport to MyWorld: Media Awareness Network extends digital literacy skills to secondary students. MediaSmarts, Media Awareness Network. Retrieved from: <http://mediasmarts.ca/blog/passport-myworld-media-awareness-network-extends-digital-literacy-skills-secondary-students>

Distribution of achieved challenges:



181 friendship requests
between players
(26 accepted, 7 rejected, 148 pending)

101 status updates

629 messages
between players
(13 public, 616 private)

Data from the first 100 users

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* see references in each slide