



wombat[®]
security technologies

Ten Commandments of Effective Security Awareness Training

Humans - The Weakest Link ?



- 82% of large organizations had staff driven security breaches⁽¹⁾
- 47% had employees lose or leak confidential information⁽¹⁾
- 86% of companies cite humans as their greatest vulnerability⁽²⁾

Overlooking the human element is most common mistake
in computer security

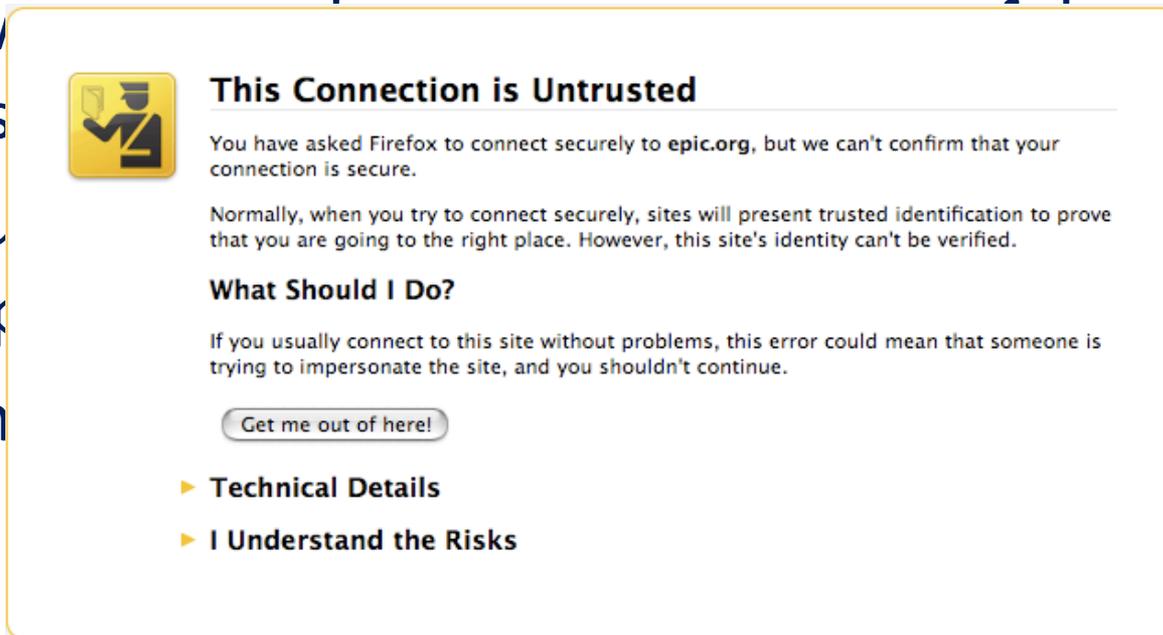
1 PWC Information Security Breaches Survey (April 2012)

2 Deloitte Global Security Survey (Feb 2009)

Technology Alone Won't Work

- Tempting to just buy software or hardware that promises to solve these problems

- How
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This Connection is Untrusted

You have asked Firefox to connect securely to **epic.org**, but we can't confirm that your connection is secure.

Normally, when you try to connect securely, sites will present trusted identification to prove that you are going to the right place. However, this site's identity can't be verified.

What Should I Do?

If you usually connect to this site without problems, this error could mean that someone is trying to impersonate the site, and you shouldn't continue.

[Get me out of here!](#)

- ▶ **Technical Details**
- ▶ **I Understand the Risks**

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Training has a Big Role to Play

- **Lack of understanding** of risks
- Wide range of **scenarios** – web surfing, Wi-Fi, passwords, SMS, location, email, apps and much more
- **Required knowledge is vast & growing**
- Delivery methods & content must be **compelling**
- Practical strategies **not always easy to articulate**
- Security = **secondary task** (no motivation to learn)



Security Awareness is Essential

- “Root cause is often a failure to invest in educating staff about security risks”⁽¹⁾
- **Organizations with a security awareness program were 50% less likely to have staff-related security breaches**⁽¹⁾
- 38% of large organizations do not have a security awareness program in place ⁽¹⁾

1 PWC Information Security Breaches Survey (April 2012)



10 Commandments of Effective Training

1. Offer conceptual and procedural knowledge

- Conceptual knowledge provides the big picture
- Procedural knowledge focuses on specific actions to solve the problem

How to apply this

- Training should always describe why something is a threat before telling the trainee what to do about it.
- Give actionable information. Specific steps they should take to protect themselves.



10 Commandments of Effective Training

2. Serve small bites – people learn better when they can focus on small pieces of information.

How to apply this

- Limit the time a lesson takes to 10 minutes or less
- Keep the lesson concepts very simple



10 Commandments of Effective Training

3. Reinforce lessons – without frequent feedback and practice, even well-learned abilities go away. Security training should be ongoing, not a one-off.

How to apply this

- Have the users practice concepts immediately after learning them
- Repeat the same lessons multiple times throughout the year
- Repetition increases retention



10 Commandments of Effective Training

4. Train in context – Present lessons in the context which the person is most likely to be attacked.

How to apply this

- Create a situation that users can relate to
 - You're sitting at your desk and an email comes in . . .
 - You receive an SMS from a number you don't recognize .
- Simulate the user interface when possible



10 Commandments of Effective Training

5. Give immediate feedback – “Calling it at the point of foul” creates teachable moments and increases impact.

How to apply this

- After each practice exercise explain why an answer is correct or incorrect to reinforce the lesson.
- This is best done on an individual basis but can be done in a group setting



10 Commandments of Effective Training

6. **Let them set the pace** –

Different baseline knowledge requires a different learning pace



How to apply this

- Web-based training enables trainees to go at their own pace
- Allow users to take the training over and over again



10 Commandments of Effective training

7. Tell a story

People remember stories much better than facts and data



How to apply this principle:

- Keep one set of characters in a particular scenario throughout training or change them up to keep the stories more fresh
- Might want to have trainees provide a story and apply that throughout classroom training



10 Commandments of Effective Training

8. Involve your students – Being actively involved in learning helps students remember things better. If trainees can practice identifying phishing schemes or strong passwords, improvements can be dramatic.

How to apply this principle:

- Immediately after each lesson give trainees opportunity to practice what they've learned multiple times.
- Use multiple realistic scenarios
- Use classroom discussion



10 Commandments of Effective Training

9. **Make them think**

People need to evaluate their performance before they improve.



How to apply this principle:

- Providing scenarios where people practice and make decisions based upon new knowledge helps them change performance.
- Review practice sessions and correct/incorrect answers to aid in evaluation



10 Commandments of Effective Training

10. Measure results

Collecting baseline data, and new data after each training campaign, provides positive reinforcement to trainees



How to apply this principle:

- Ensure that your training program supports more than just collection of completion data
- Perform annual, or more regular, assessments to measure knowledge, not to train



Conceptual and Procedural - Tell a Story



Safer Web Browsing

Lesson 1 - Building Blocks of Safer Browsing

AI's Risky Browsing Story

How AI was tricked into downloading a virus



AI is browsing the internet when he sees a prompt telling him that he has a virus.

He clicks "OK," thinking he's downloading a virus scanner.

He doesn't realize that because the prompt is inside the content area, it is controlled by the website!

Safer Web Browsing

Conceptual and Procedural



Safer Web Browsing

Lesson 1 - *Building Blocks of Safer Browsing*

To Click or Not to Click



Decide whether or not to click...



Click

Don't Click



Immediate Feedback



Safer Web Browsing

Lesson 1 - Building Blocks of Safer Browsing

To Click or Not to Click



Good job! Don't trust pop-ups that appear in your browser's content area. Check for viruses using anti-virus software that is already installed.



Immediate Feedback



Safer Web Browsing

Lesson 1 - *Building Blocks of Safer Browsing*

To Click or Not to Click



Good job! If you want to update your browser, either use the "Check for updates" menu option or your computer's "Check for updates" function.



Click

Don't Click

? Review

Next

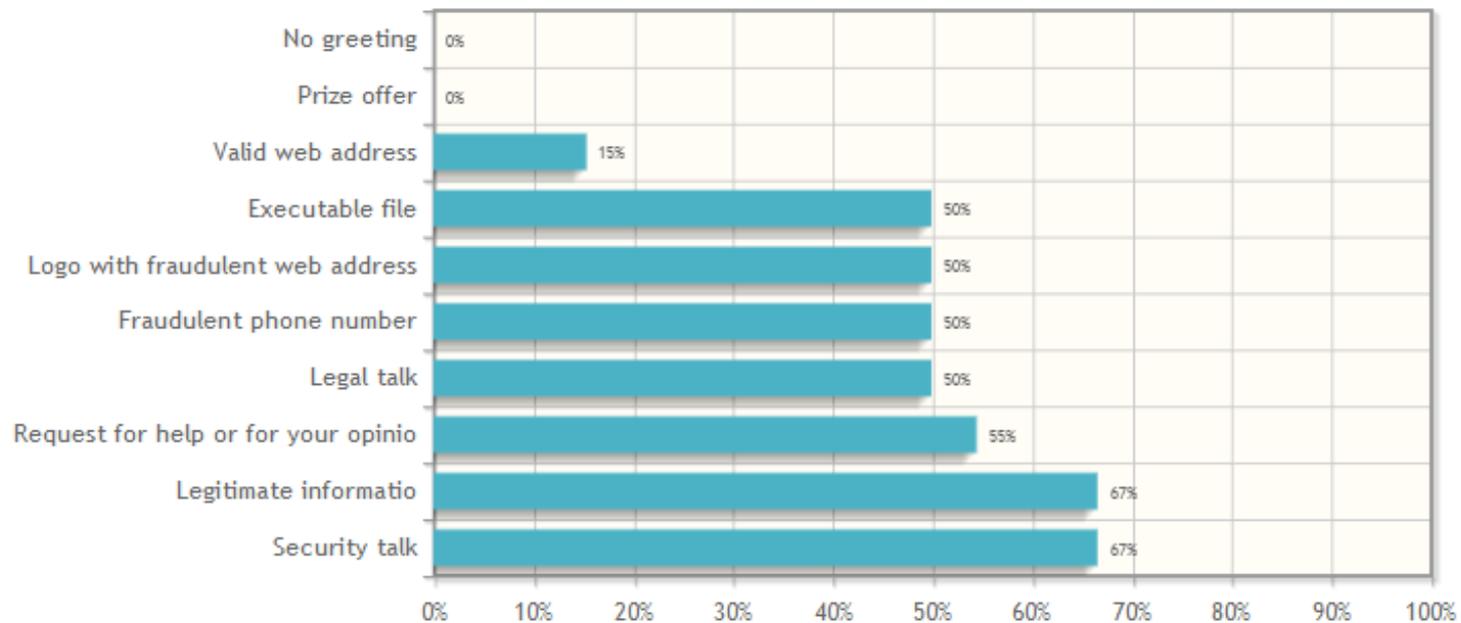


Measurement & Reporting

Most Missed Report

Max Results: 10
 Start Date: 09/05/2012
 End Date: 02/11/2013
 Module: Email Security

[Change Report Criteria](#)



| Content ↑ | Percentage Correct |
|-------------------------|--------------------|
| Prize offer | 0.00% |
| No greeting | 0.00% |
| Valid web address | 15.38% |
| Legal talk | 50.00% |
| Fraudulent phone number | 50.00% |

Assessment

[Hello Wombat Security Technologies](#) | [My Account](#) | [Contact](#) | [About](#) | [Logout](#)



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Social Engineering Assessments



PhishGuru[®]

Assess, teach, and drive employee behavior change by simulating email phishing attacks.



USBGuru[™]

Assess, teach, and drive employee behavior change by simulating memory device attacks.

[Anti-Phishing Expert, Wombat Security Technologies, Unveils Social Engineering Security Training Module](#)

Tuesday, January 15, 2013

Wombat Security Technologies (Wombat), a leading provider of cyber security awareness training solutions, today announced the release of its comprehensive Social Engineering training module to defend against the most up-to-date and sophisticated social engineering threats, including spear phishing and social media-based attacks. The Social Engineering security training module leverages Wombat's award-winning anti-phishing expertise and proven learning techniques to arm employees with the

[The Top 10 Tech Companies to Watch in 2013](#)

[Security Awareness Training: The Final Frontier in the Fight Against Cybercrime](#)

[Top 7 end-user security priorities for 2013](#)

[Smartphone snoops? How your phone data is being shared](#)

Change Behavior. Reduce Risk.

10 Commandments Recap

1. Conceptual and Procedural
2. Serve small bites
3. Reinforce lessons
4. Train in context
5. Give immediate feedback
6. Let them set the pace
7. Tell a story
8. Involve your students
9. Make them think
10. Measure results



Summary

- Humans don't have to be your weakest link
- A security awareness program reduces your risk
- Yes, security awareness training can work
- Training must be engaging, efficient & measurable
- Leverage learning science for the best results
- Knowledgeable users are your best defense



Questions?