

Prevent the Hack!

Teaching Cybersecurity with PLTW

Mary Murphy
*Director of School Engagement
South Florida*

mmurphy@pltw.org
561-945-2461
@Mary_Murphy17



In 2017 alone, all of the cybersecurity protection efforts cost businesses \$86.4 billion.

(Global Sign, Cybersecurity Trends, 2018)

Name three words that come to mind when you hear the word "hacker".

Phishing emails

PayPal

We need your help

Your account has been suspended, as an error was detected in your informations.
The reason for the error is not certain, but for security reasons, we have suspended your account temporarily

We need you to update your informations for further use of your PayPal account.

[Update your information](#)

You are currently made disabled of :



Adding a payment method
Adding a billing address

Sending payment
Accepting payment

Please do not reply to this email. We are unable to respond to inquiries sent to this address. For immediate answers to your questions, visit our Help Center by clicking "Help" located on any PayPal page or email.

Copyright © 2016 PayPal, Inc. All rights reserved. PayPal is located at 2211 N. First St., San Jose, CA 95131.



MS Settings Setup <officialsetin@micromsn365officials.org.com>

[Alerts](#)

Reset Password In Process

[If there are problems with how this message is displayed, click here to view it in a web browser.](#)

Microsoft Outlook Office365

Your New Password Request

Your password reset is in process and your current password will be disabled shortly. The password reset link will be forwarded to the new optional email submitted.

Ignore this email notification your request will take effect shortly

If you did not request this password reset

Use Cancel Request button to cancel the password reset and keep your

[Cancel Request](#)

This action will take a brief period before this request takes effect

This is a mandatory communication about the service. To set communication preferences for other cases.

From: alerts@linkedin.com
Subject: Important LinkedIn Update
Date: August 23, 2011 3:17:58 AM MST
To: Maria Langer

[Show in Mailbox](#)

LinkedIn

Your LinkedIn account was blocked due to inactivity.
To remove the restrictions please [Follow this link](#)

Thank you for using LinkedIn!

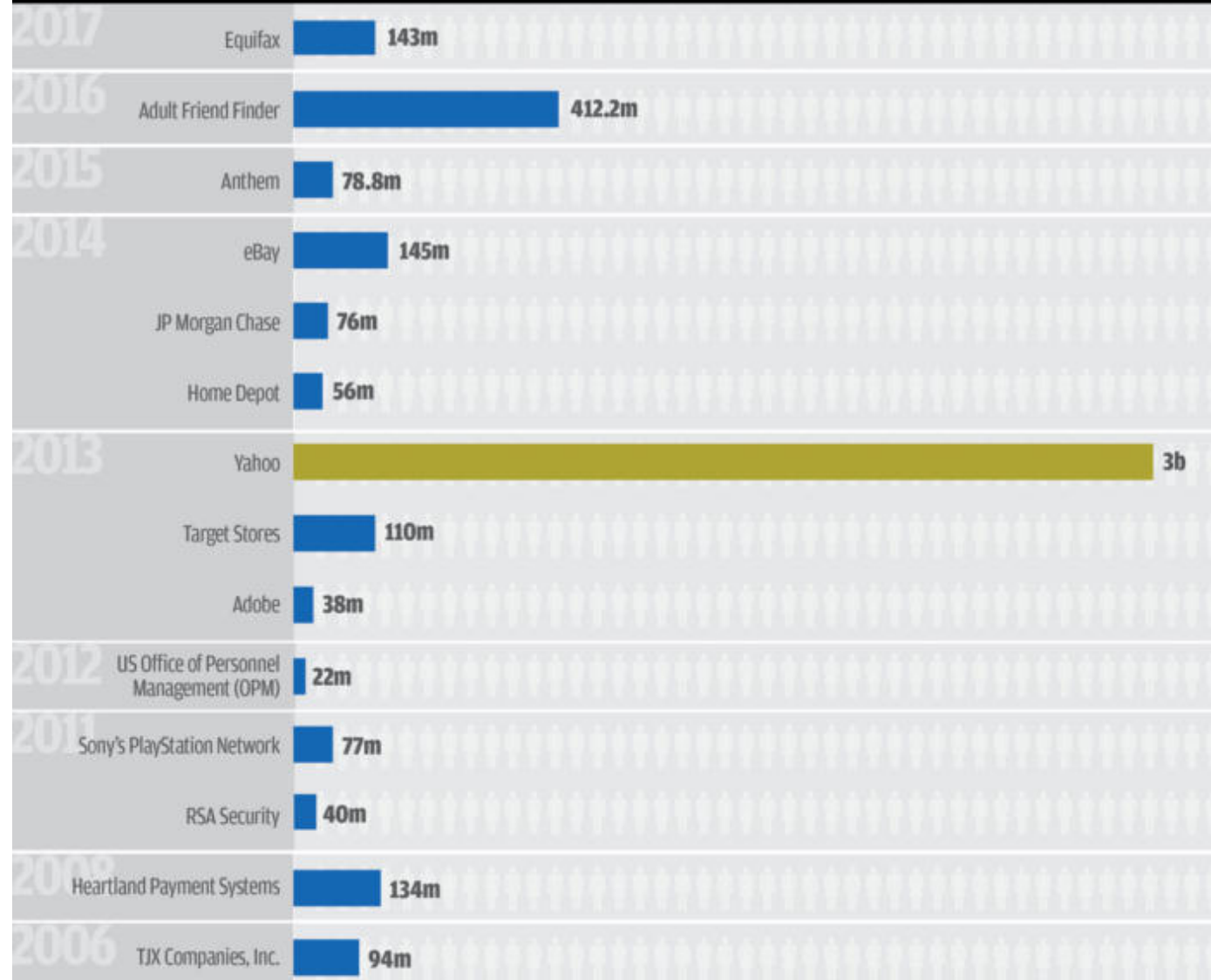
—The LinkedIn Team
<http://www.linkedin.com/>
© 2011, LinkedIn Corporation

Biggest **DATA BREACHES** of the 21st century

Accounts
Compromised

by the millions

by the billions



SOURCE: CSO

Cryptocurrency theft hits nearly \$1 billion in first nine months: report

Gertrude Chavez-Dreyfuss

3 MIN READ



NEW YORK (Reuters) - Theft of cryptocurrencies through hacking of exchanges and trading platforms soared to \$927 million in the first nine months of the year, up nearly 250 percent from the level seen in 2017, according to a report from U.S.-based cyber security firm CipherTrace released on Wednesday.



Reuters, October 2018

Bitcoin



SURFACE WEB

Google

Bing

Wikipedia

DEEP WEB

Contains 90% of the information on the Internet, but is not accessible by Surface Web crawlers.

Academic Information

Medical Records

Legal Documents

Scientific Reports

Subscription Information

Multilingual Databases

Financial Records

Government Resources

Competitor Websites

Organization-specific
Repositories

Social Media

(DARK WEB)

A part of the Deep Web accessible only through certain browsers such as Tor designed to ensure anonymity. Deep Web Technologies has zero involvement with the Dark Web.

Cybercriminals are going to create 3.5 million new, unfilled cybersecurity jobs by 2021.

Compare that with one million openings in 2016. That's an increase of 350 percent in just five years.

(Global Sign, Cybersecurity Trends, 2018)





“Cybersecurity is an exciting field for people with a curious nature and who never tire of learning new things while balancing complex social and technological concerns.”

(www.floridatechonline.com)

Cybersecurity

To better society and to improve cyberspace for all. Students will build their understanding of ethical responsibility in the digital world and will revisit the topics of ethics and digital citizenship in each unit of study.

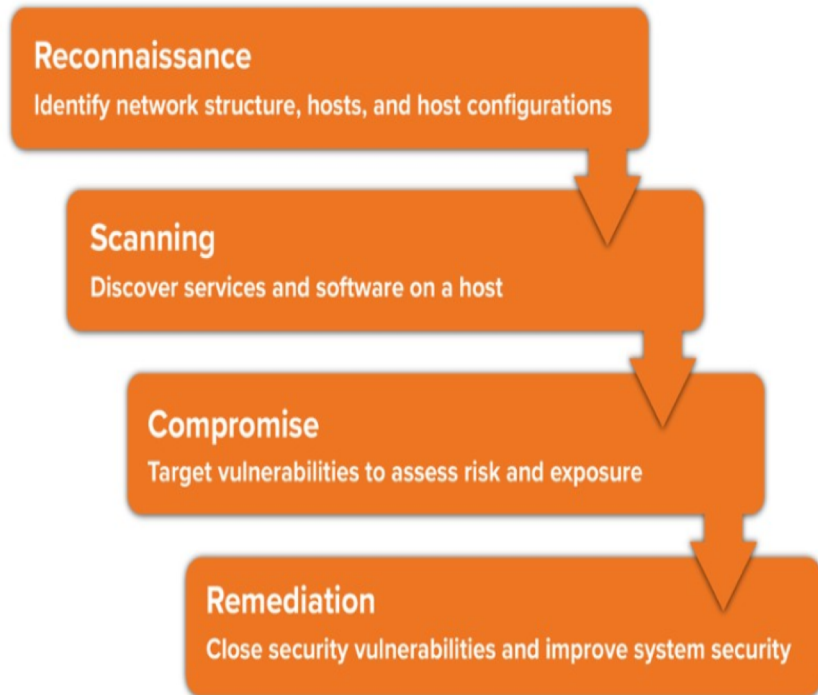
**High School 10th grade
Optional for any student**

**Personal Cybersecurity
System Cybersecurity
Network Cybersecurity
Network Security Lab
Well-Known Exploits
Ethical Approach**

Activity, Project, Problem-based Learning Approach



Ethical Hacking?? YES!



What is the ethical dilemma or consideration in this situation?

What are the various perspectives that individuals might have when considering this scenario?

What is your personal perspective on this scenario?

What is a new perspective you previously had not considered?

What would it take for you to change your mind?

***Amazing Web
Based
Cybersecurity
Labs!***



powered by
Hatsize

Copyright 2018 Hatsize Corporation.
All Rights Reserved.

The criminals are getting smarter, and the technology is constantly changing. Therefore, we must stay on top of the latest trends in cybersecurity to protect our schools and our personal information.

When we move from simply teaching teachers and students how to use technology to how to protect themselves online, we are creating digital leaders.

Mathew Lynch, The Tech Advocate, May 2018