Welcome

10 Things you need to know to protect yourself and your company from cyber attacks

The roots of education are bitter, but the fruit is sweet. Aristotle

Tutorial Program

HCI / HF and Cyber Security

10 Things you need to know to protect yourself and your company from cyber attacks

Abbas Moallem, Ph.D.

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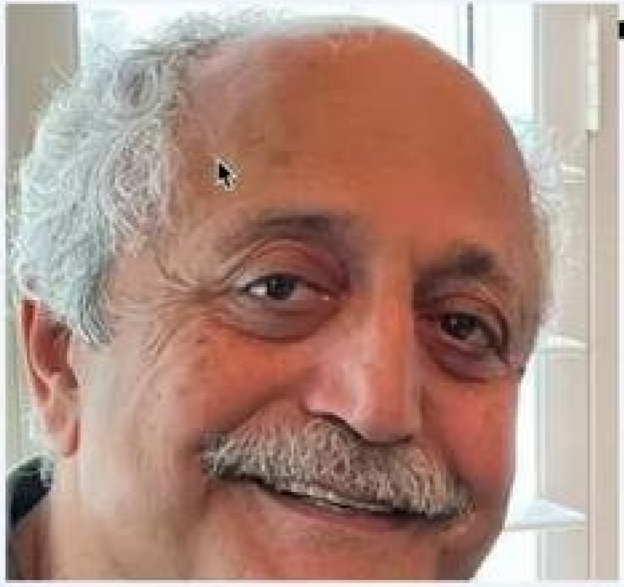
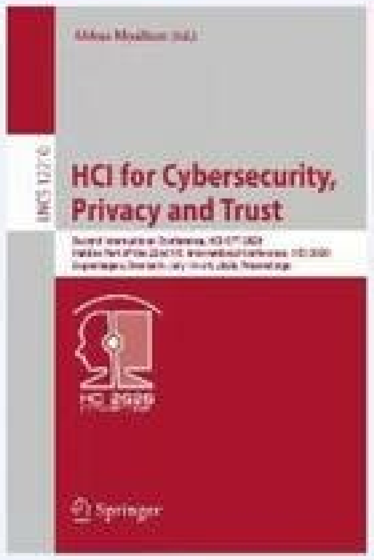


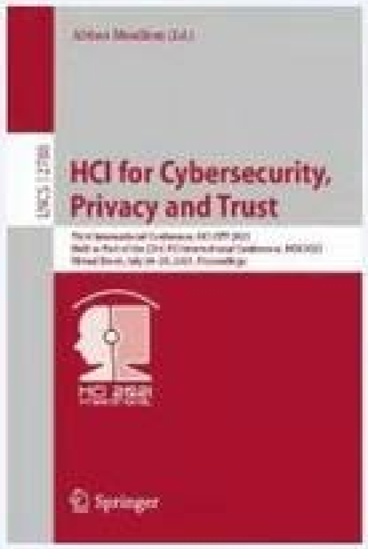
- Executive Director, UX Experts LLC
- Adjunct Professor ISE Department, San Jose State University
- California State University East Bay, and Santa Clara University

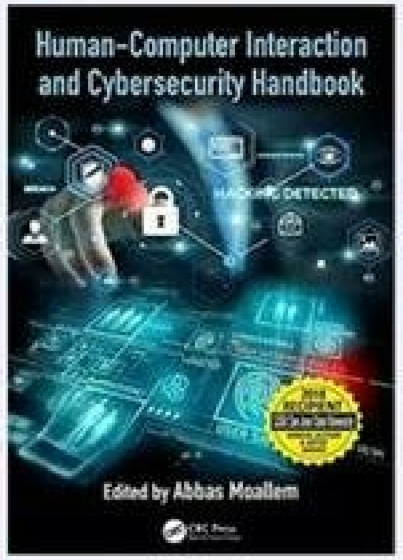
Education

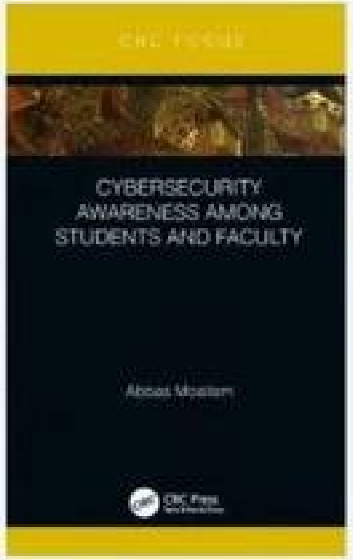
- *Ph.D. Human Factors and Ergonomics, University of Paris, France*
- *M.S. Human Factors & Ergonomics University of Paris, France*
- *M.S. Biomechanics, University of Paris, France*

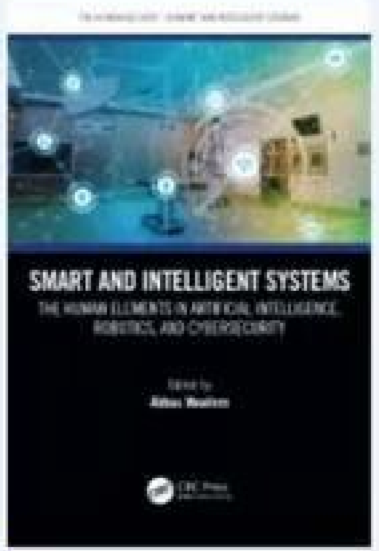
2021,2020, 2019 and 2018 Books



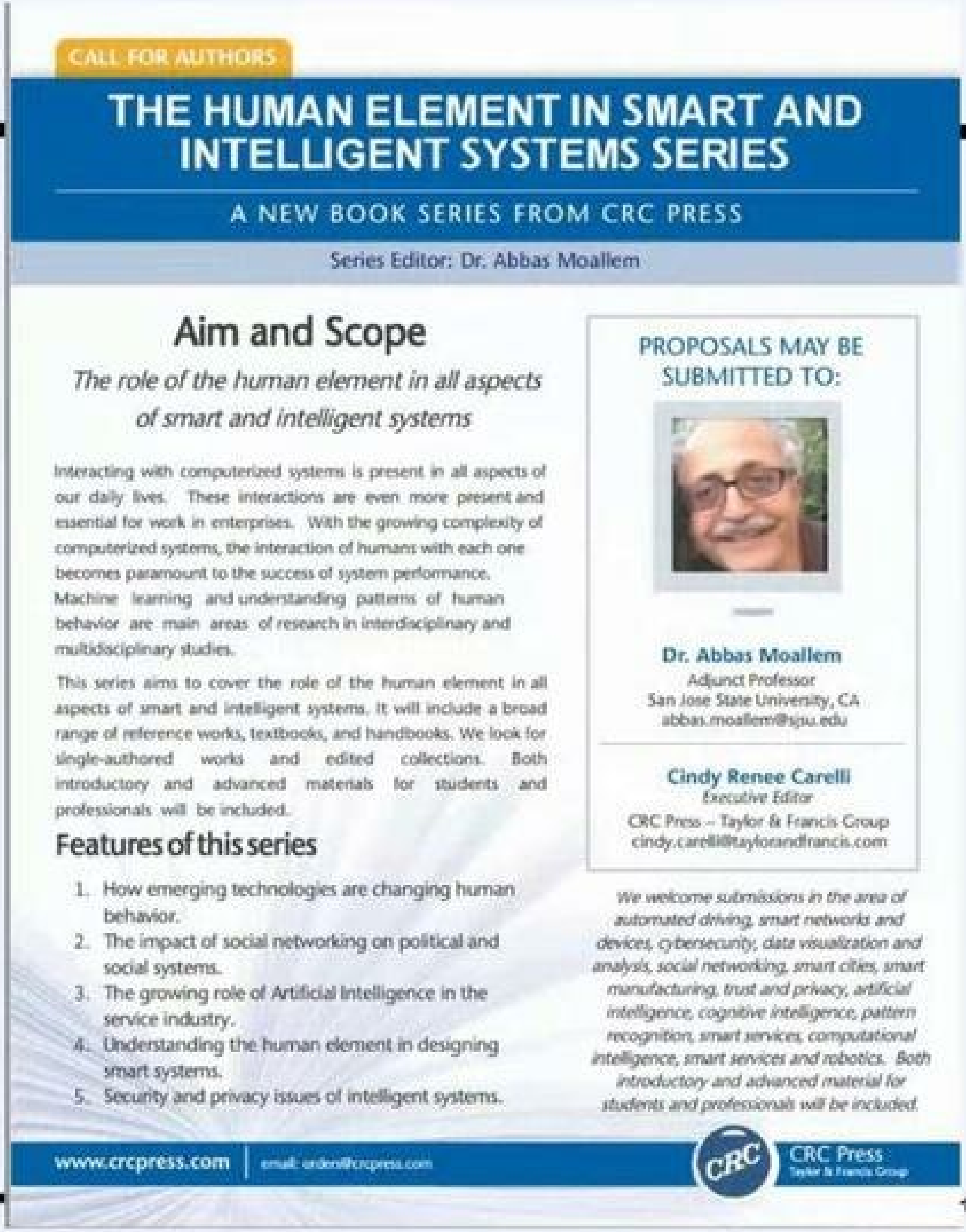







SMART AND INTELLIGENT SYSTEMS
THE HUMAN ELEMENTS IN ARTIFICIAL INTELLIGENCE, ROBOTICS, AND CYBERSECURITY
Edited by
Abbas Moallem
CRC Press

Book Series



CALL FOR AUTHORS

THE HUMAN ELEMENT IN SMART AND INTELLIGENT SYSTEMS SERIES

A NEW BOOK SERIES FROM CRC PRESS

Series Editor: Dr. Abbas Moallem

Aim and Scope

The role of the human element in all aspects of smart and intelligent systems

Interacting with computerized systems is present in all aspects of our daily lives. These interactions are even more present and essential for work in enterprises. With the growing complexity of computerized systems, the interaction of humans with each one becomes paramount to the success of system performance. Machine learning and understanding patterns of human behavior are main areas of research in interdisciplinary and multidisciplinary studies.

This series aims to cover the role of the human element in all aspects of smart and intelligent systems. It will include a broad range of reference works, textbooks, and handbooks. We look for single-authored works and edited collections. Both introductory and advanced materials for students and professionals will be included.

Features of this series

1. How emerging technologies are changing human behavior.
2. The impact of social networking on political and social systems.
3. The growing role of Artificial Intelligence in the service industry.
4. Understanding the human element in designing smart systems.
5. Security and privacy issues of intelligent systems.

PROPOSALS MAY BE SUBMITTED TO:

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Adjunct Professor
San Jose State University, CA
abbas.moallem@sjsu.edu

Cindy Renee Carelli
Executive Editor
CRC Press – Taylor & Francis Group
cindy.carelli@taylorandfrancis.com

We welcome submissions in the area of automated driving, smart networks and devices, cybersecurity, data visualization and analysis, social networking, smart cities, smart manufacturing, trust and privacy, artificial intelligence, cognitive intelligence, pattern recognition, smart services, computational intelligence, smart services and robotics. Both introductory and advanced material for students and professionals will be included.

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INTERNATIONAL CONFERENCE ON HCI FOR CYBERSECURITY, PRIVACY AND TRUST

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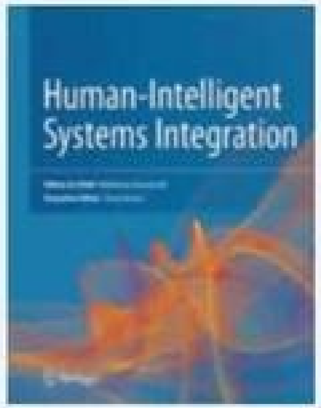

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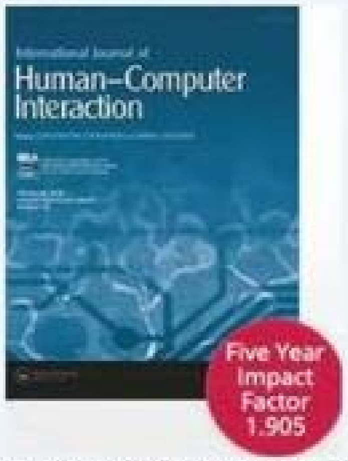
International Journal of Human–Computer Interaction
Five Year Impact Factor 1.905

Awards

Annual Authors & Artist Awards 2019, Annual Authors & Artist Awards 2018, NETGEAR Innovation Award 2012, SJSU Certificate of Appreciation in Teaching , Tumbleweed MVP Award, PeopleSoft Hero Award

Few Words About Me

Lam RESEARCH
HID
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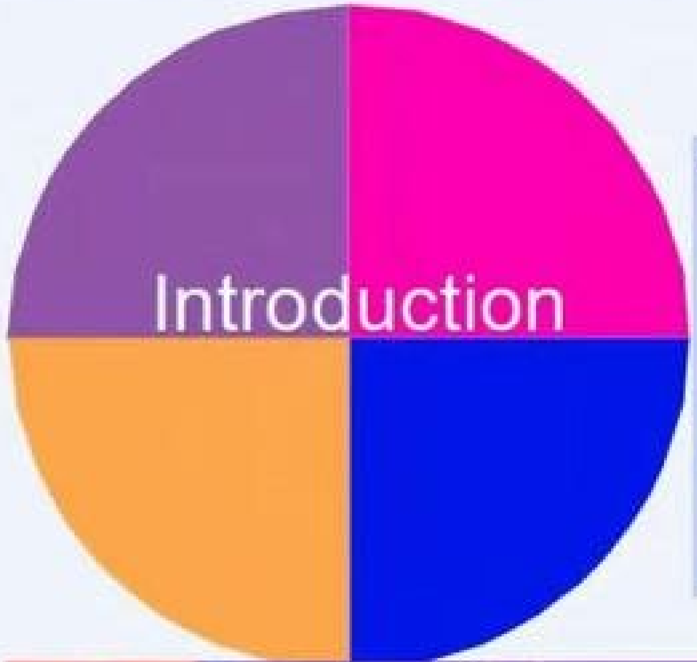
ORACLE
POLYCOM
TOGETHER. GREAT THINGS HAPPEN.
Tumbleweed
SECURE CONTENT DELIVERY
PEOPLE Soft
GE
NETGEAR
APPLIED MATERIALS
axway
business. in motion.
Deloitte.
as for life
Polycom
SEARS HOLDINGS CORPORATION

Today's Agenda

- **Program Overview** (5 Mints)
- **Introduction to Cyber Security** (10 Mints)
- **Cyber Crime** (10 Mints)
- **Trust** (10 Mints)
- **Authentication** (10 Mints)
- **Privacy** (10 Mints)
- **Surveillance** (10 Mints)
- **Ransomware** (10 Mints)
- **Identity Theft** (10 Mints)
- **Phishing**(10 Mints)
- **Application Access** (10 Mints)
- **Social Media** (10 Mints)
- **Home Networking** (10 Mints)
- **Quizzes** (5 Mints)
- **Q & A** (10 Mints)

Introduction



What is Cybersecurity?
Historical Background
Human Society & Crime
Cyber Security Economics

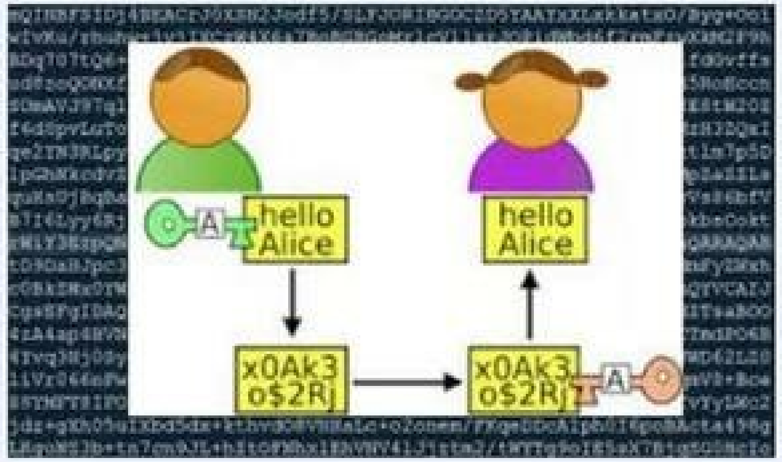
What is Cybersecurity?

What is Cyber Security?

Cyber security, also referred to as information technology security, focuses on protecting computers, networks, programs and data from unintended or unauthorized access, change or destruction.

http://www.umuc.edu/cybersecurity/about/cybersecurity-basics.cfm

Historical Glance



Cryptography

Cyber-Security

Cryptography

Cryptography or cryptology "study", respectively is the practice and study of techniques for secure communication in the presence of third parties (called adversaries).

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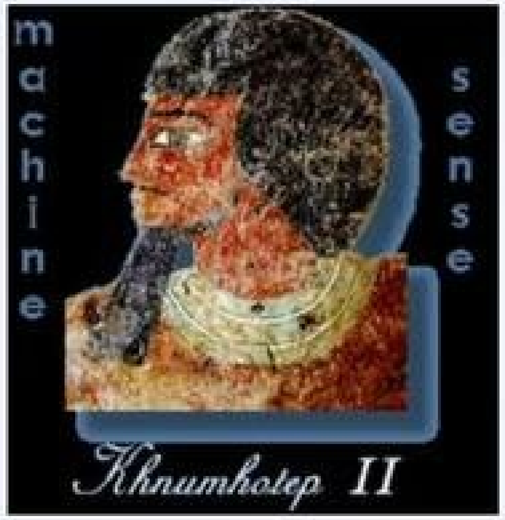
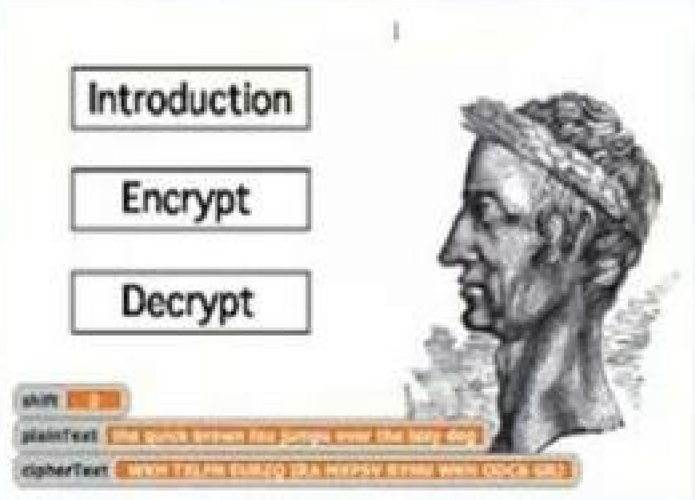
Cryptography



Inscription carved the tomb of the nobleman Khnumhotep



Caesar was known to use a form of encryption

$$\underline{x} = (x_0, x_1, \ldots, x_{n-1}) \rightarrow \begin{pmatrix} x_0 & x_1 & \cdots & x_{M-1} \\ x_M & x_{M+1} & \cdots & x_{2M-1} \\ \vdots & \vdots & \ddots & \vdots \\ x_{(n-1)M} & x_{(n-1)M+1} & \cdots & x_{nM-1} \end{pmatrix}.$$

IBM Lucifer was developed by Horst Feistel

Hebern rotor machine

Cryptography

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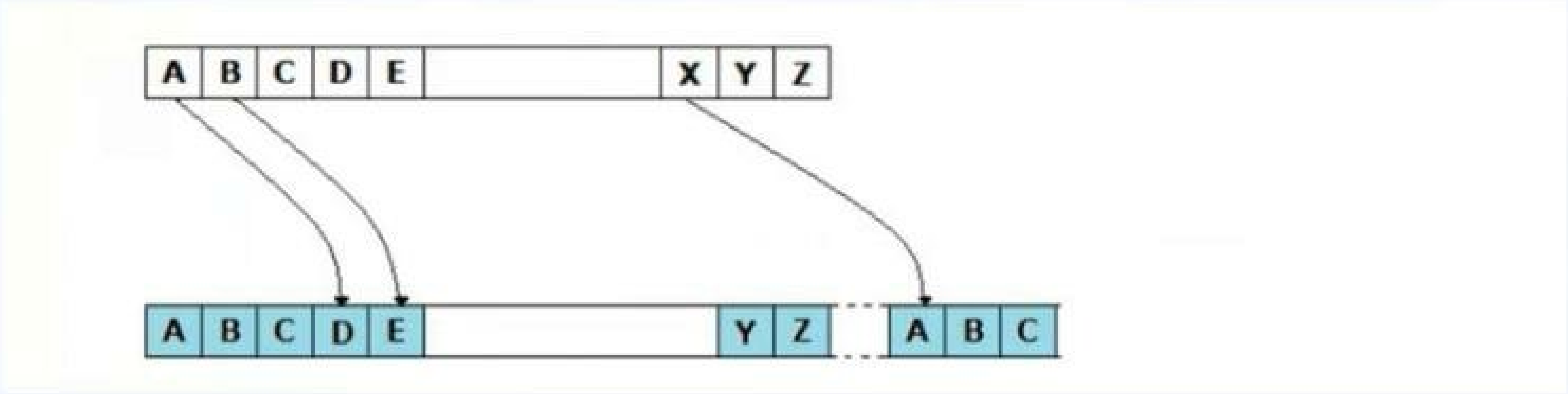
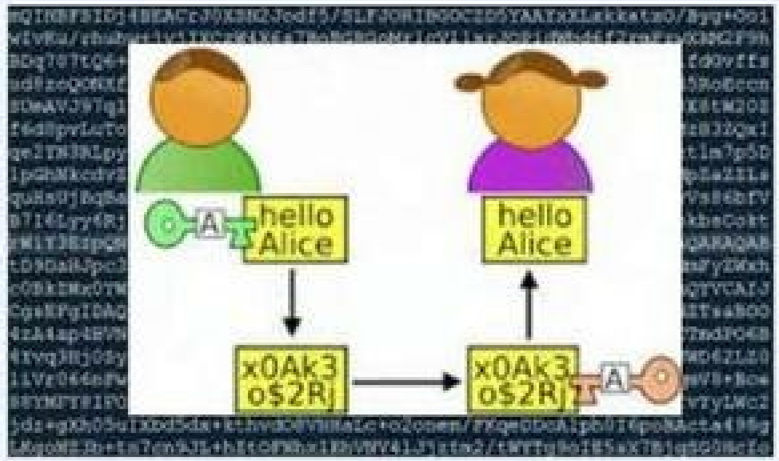


Historical Glance



Cryptography

Cyber-Security

What is Cyber Security?

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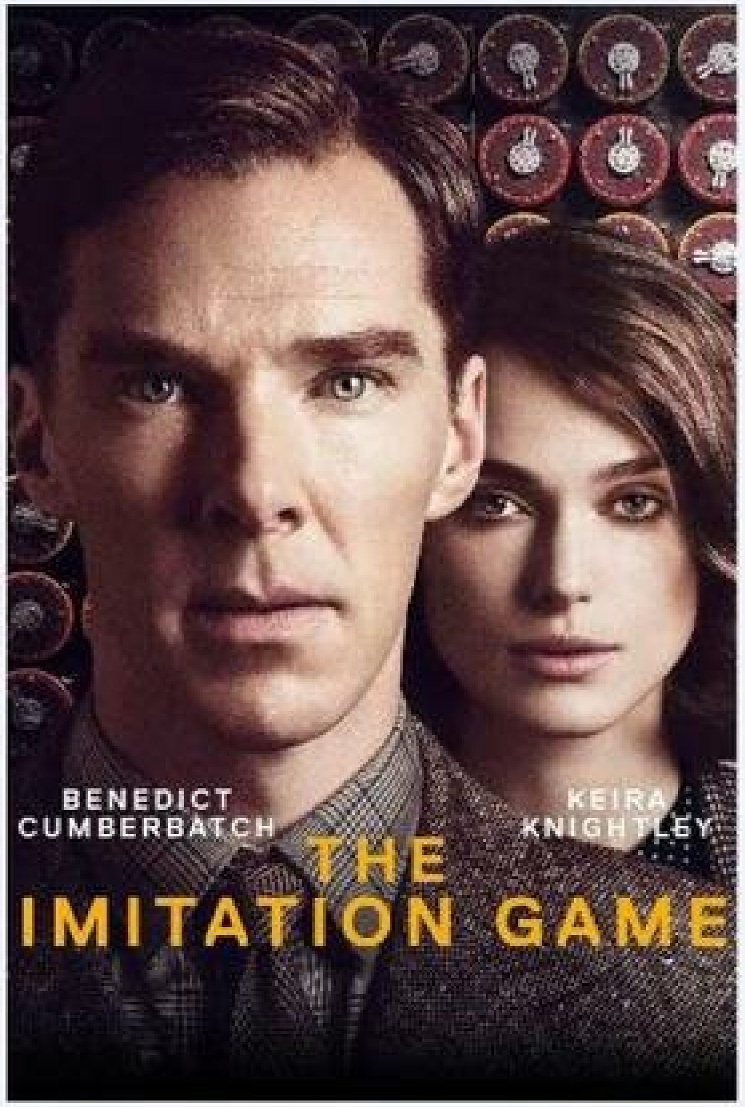
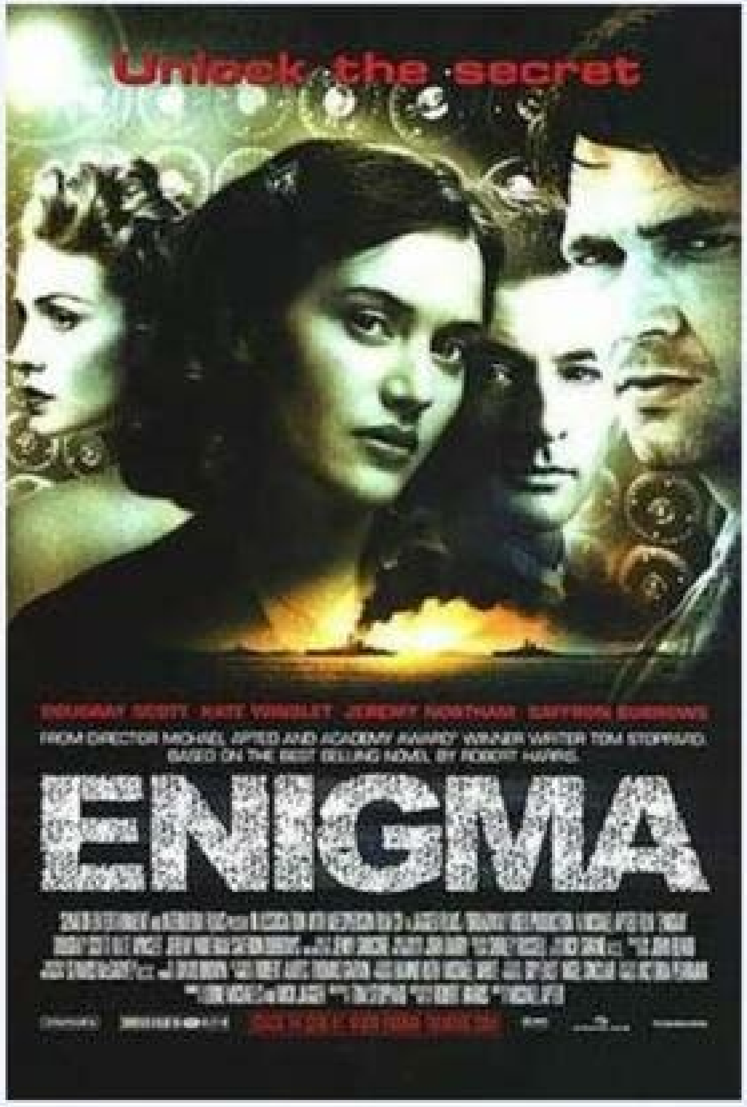
http://www.umuc.edu/cybersecurity/about/cybersecurity-basics.cfm

Movies


BENEDICT CUMBERBATCH
KEIRA KNIGHTLEY
THE IMITATION GAME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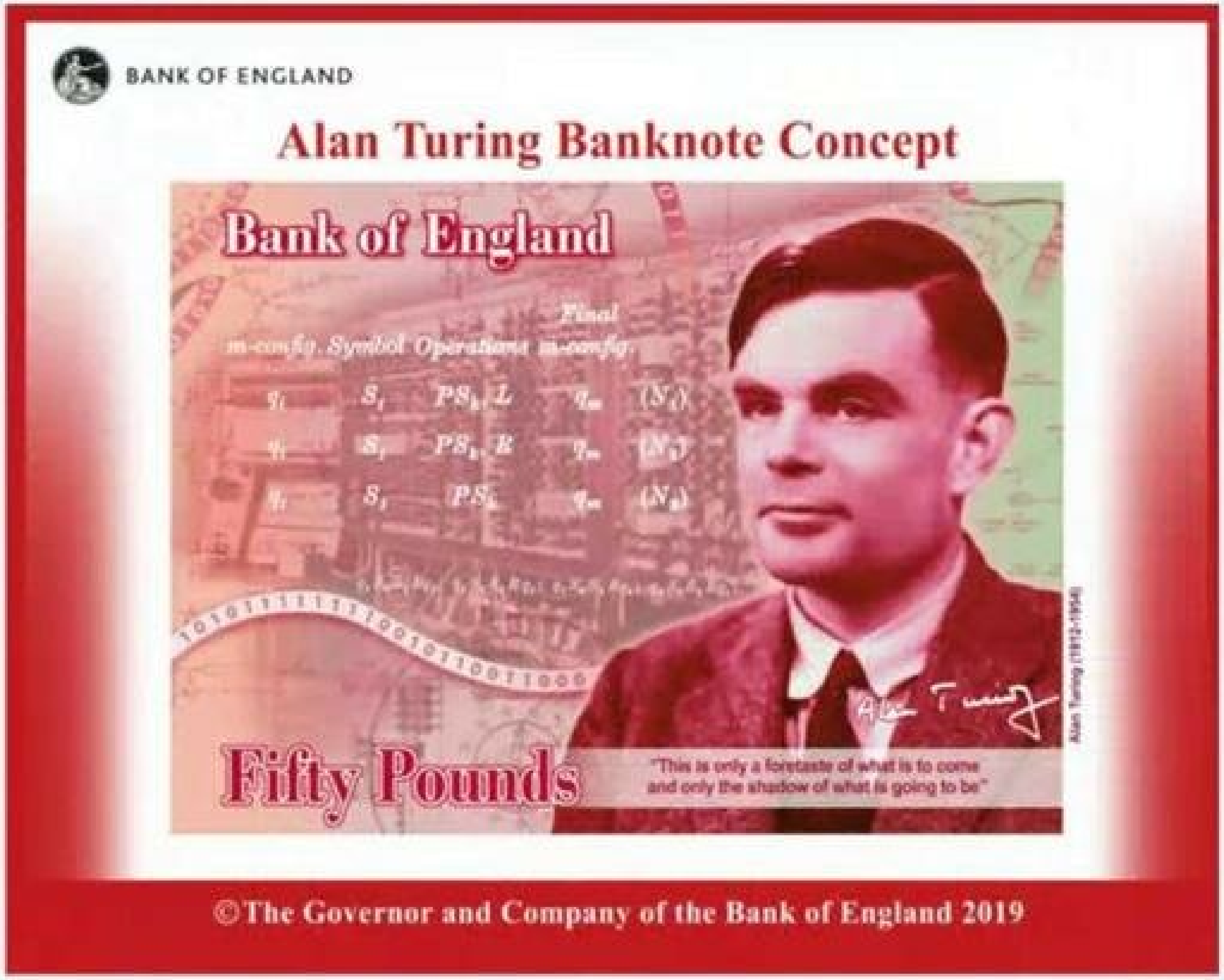
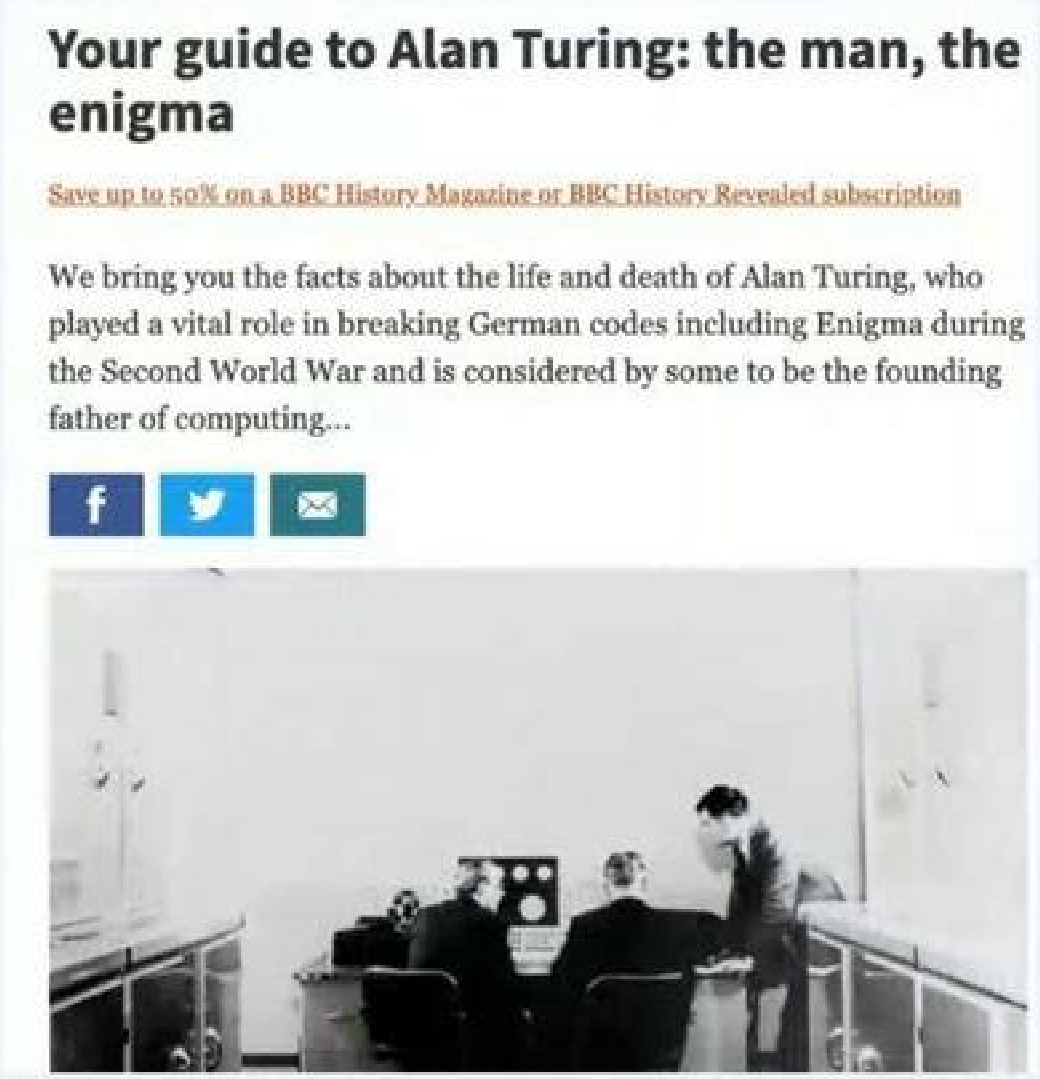
Computing Pioneer Alan Turing


BANK OF ENGLAND
Alan Turing Banknote Concept
Bank of England
m-config. Symbol Operations Final m-config.
Fifty Pounds
"This is only a foretaste of what is to come and only the shadow of what is going to be"
Alan Turing (1912-1954)
©The Governor and Company of the Bank of England 2019



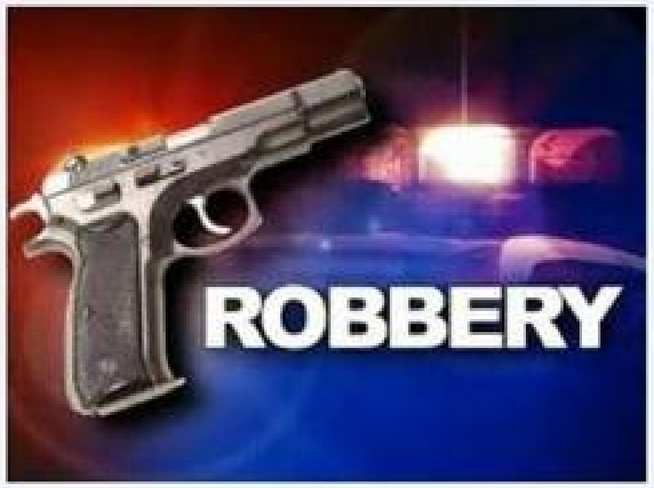
Your guide to Alan Turing: the man, the enigma

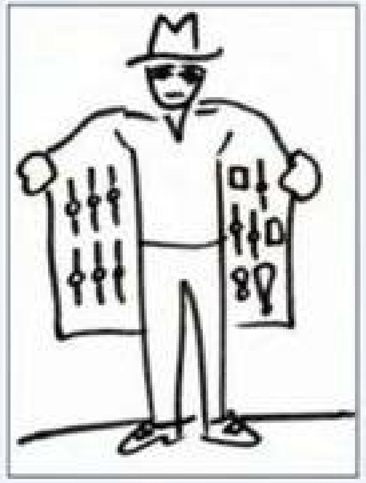
Save up to 50% on a BBC History Magazine or BBC History Revealed subscription

We bring you the facts about the life and death of Alan Turing, who played a vital role in breaking German codes including Enigma during the Second World War and is considered by some to be the founding father of computing...

https://www.historyextra.com/period/second-world-war/alan-turing-life-death-legacy-facts-enigma-sexuality-timeline/

Human Society & Crime





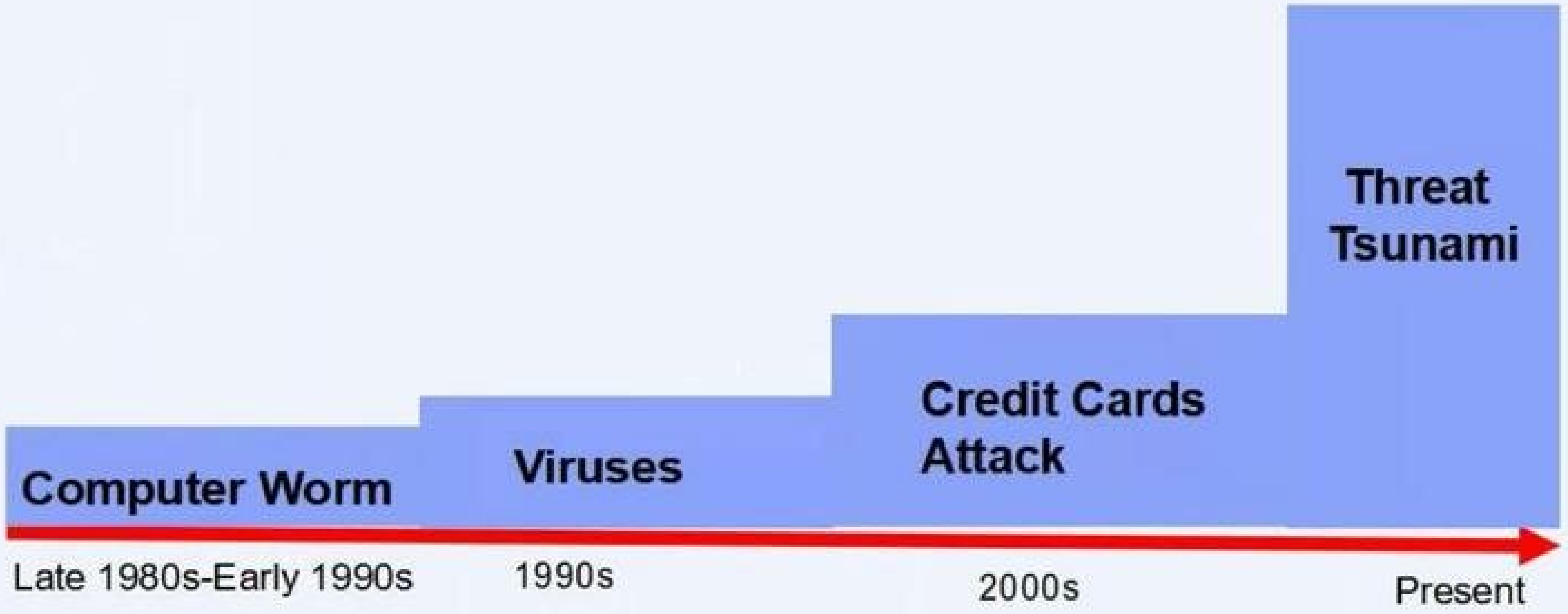
Digital Age & Crime

Scale

Volume

Ease

Modern Cyber Security



Computer Worm

Viruses

Credit Cards Attack

Threat Tsunami

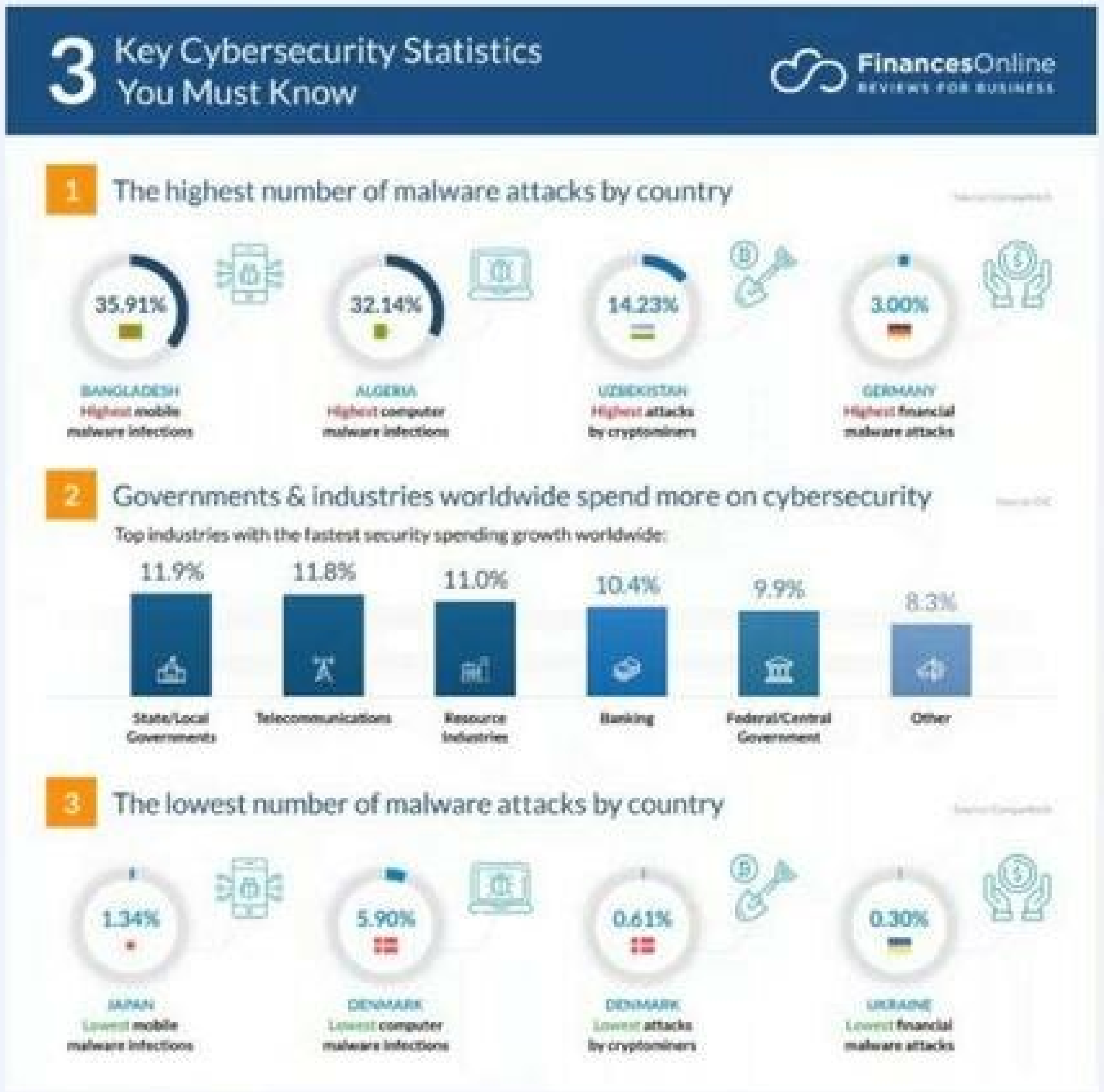
Late 1980s-Early 1990s

1990s

2000s

Present

Cyber Security Economics



3 Key Cybersecurity Statistics You Must Know

FinancesOnline
REVIEWS FOR BUSINESS

1 The highest number of malware attacks by country

2 Governments & industries worldwide spend more on cybersecurity

Top industries with the fastest security spending growth worldwide:

3 The lowest number of malware attacks by country

Global Spending on IT Security in 220 is

World Expected Spent on Information Security in 2020

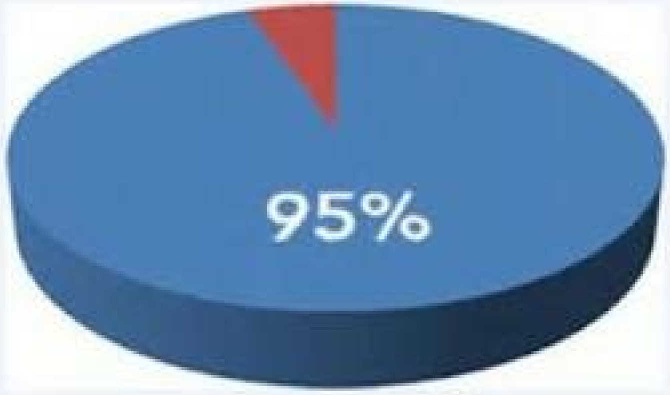
$123.8 billion

grow
2.4%

According to Gartner

IT Security

95% of all security incidents involve human error.



Cyber-Security Cost

An estimated two million cyber attacks in 2018 resulted in more than $45 billion in losses worldwide as local governments struggled to cope with ransomware and other malicious incidents.

https://www.securitymagazine.com/articles/90493-cyber-attacks-cost-45-billion-in-2018

Forty-three percent of cyberattacks are aimed at small businesses, but only 14% are prepared to defend themselves, according to Accenture.
These incidents now cost businesses of all sizes $200,000 on average, reveals insurance carrier Hiscox.
More than half of all small businesses suffered a breach within the last year.
Today it's critical for small businesses to adopt strategies for fighting cyberthreats.

IT Security

User behavior does play a significant part in many security failures.

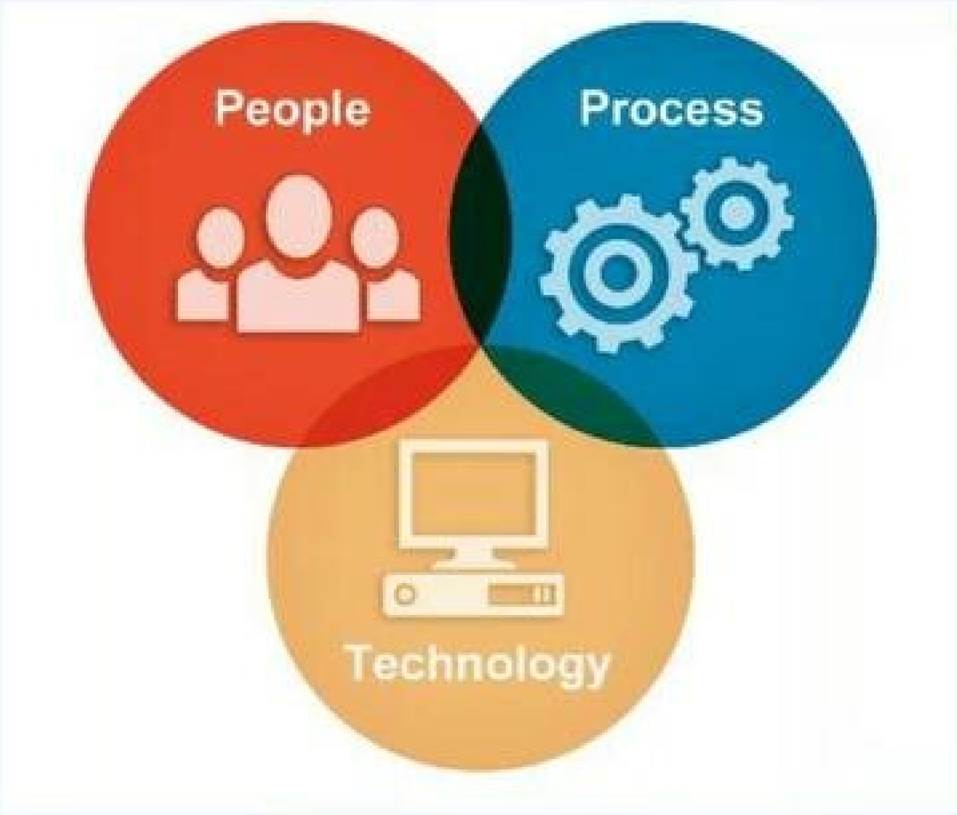
IT Security

Human agent is in the center of all security research and the weakest link in the security chain.

Human Agent

“weakest link in the security chain”

IT Security

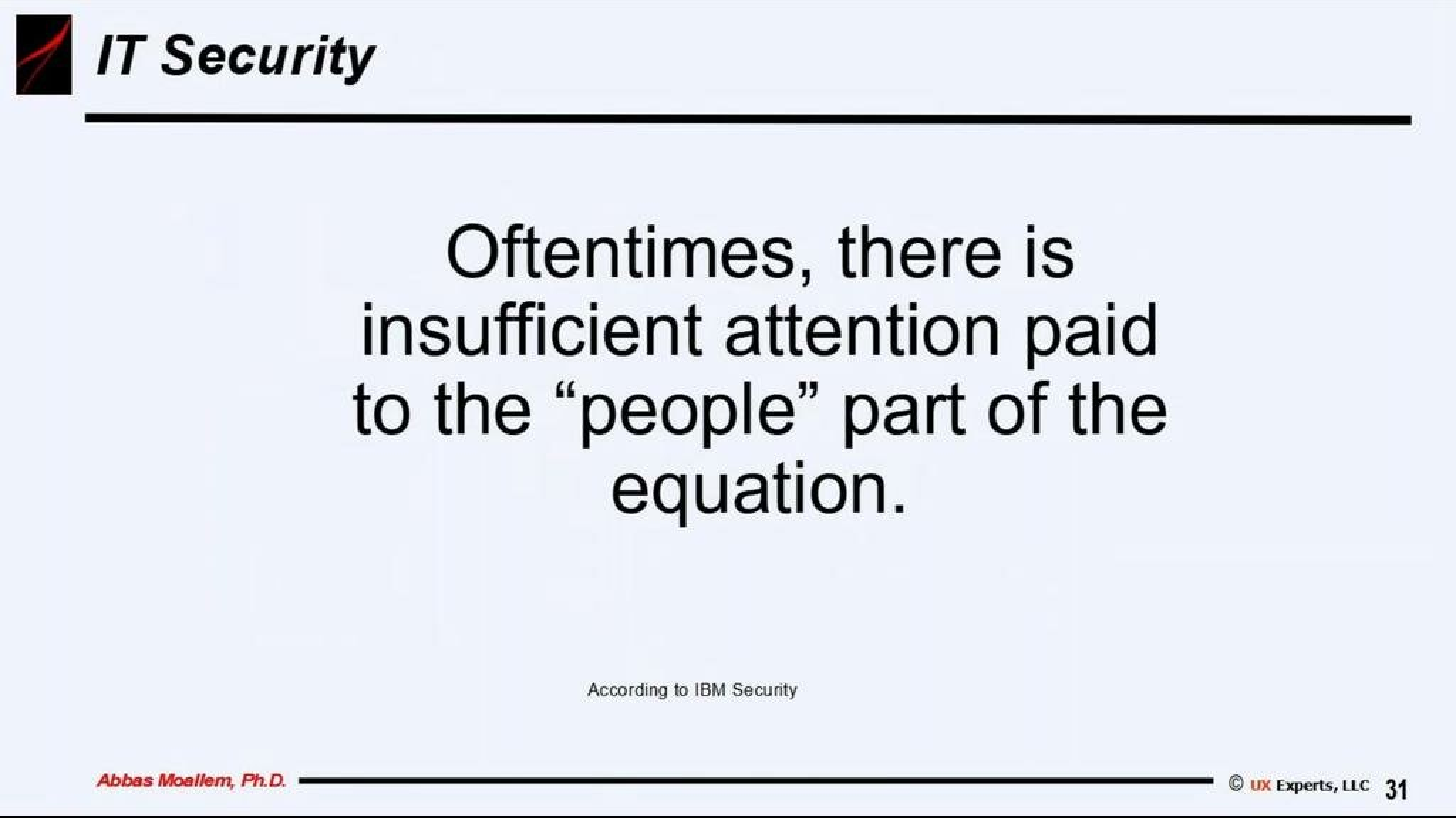


Successful organization must focus on people, processes and technology equally.

IT Security

Even organizations with strong security practices are still vulnerable to human error.

According to IBM Security



IT Security

Oftentimes, there is insufficient attention paid to the “people” part of the equation.

According to IBM Security

IT Security

The demand for cyber security experts is growing at 12 times the overall job market.

according to the report by Burning Glass International Inc., a Boston-based company

IT Security

The demand for cyber security experts is growing at 12 times the overall job market, making it one of the most highly sought-after fields in the country, according to the report by Burning Glass International Inc., a Boston-based company that uses artificial intelligence to match jobs and job seekers.

Cybersecurity Labor

- There is a global cybersecurity labor epidemic.

- More than 200,000 U.S. cybersecurity jobs are unfilled. The cybersecurity workforce shortage is expected to reach 1.5 million unfilled positions by 2019.

Cyber-Security Cost

- The cost of data breaches estimated to $2.1 trillion globally by 2019.

- Increasing to almost four times the estimated cost of breaches in 2015, according to research from Juniper

www.securitymagazine.com/articles/86352-cybercrime-will-cost-businesses-2-trillion-by-2019

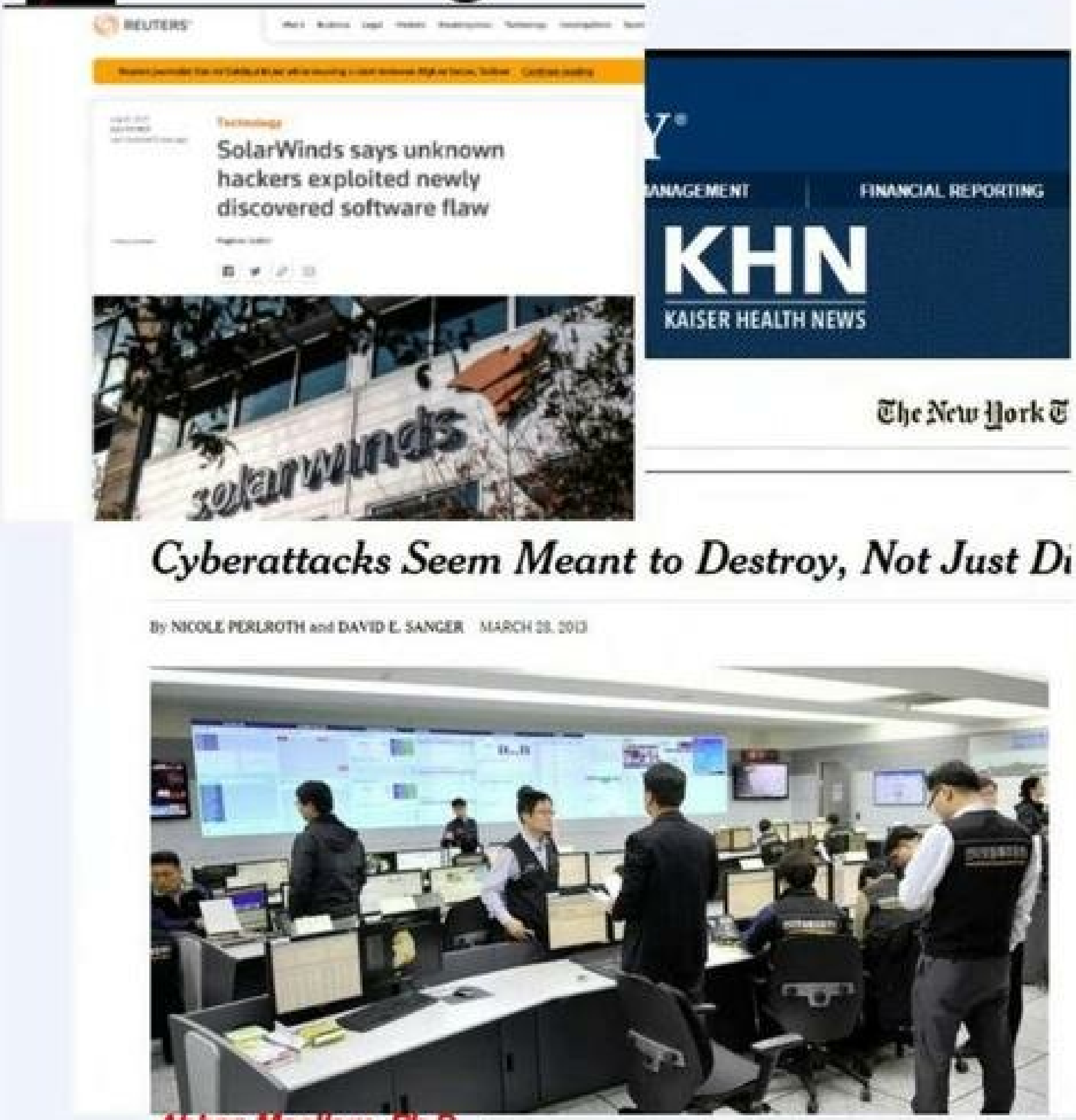
Cost of Security

- Secure e-mail hosting at $12.95 per employee per month,
- Antivirus service costing $3 per employee per month,
- Online backup at 50¢ per gigabyte.
- Internet phone system for $20 per user per month,
- Labor costs for an outsourced IT department at $52.50 per worker per month,

Monthly estimate for a 50-employee company comes to about $4,800, or $57,600 annually

http://www.bloomberg.com/bw/articles/2014-10-31/cybersecurity-how-much-should-it-cost-your-small-business

Hacking in the News..



REUTERS

Technology

SolarWinds says unknown hackers exploited newly discovered software flaw

Cyberattacks Seem Meant to Destroy, Not Just Di

By NICOLE PERLROTH and DAVID E. SANGER MARCH 28, 2013

A hacker gained access to 100 million Capital One credit card applications and accounts

By Rob McLean, CNN Business

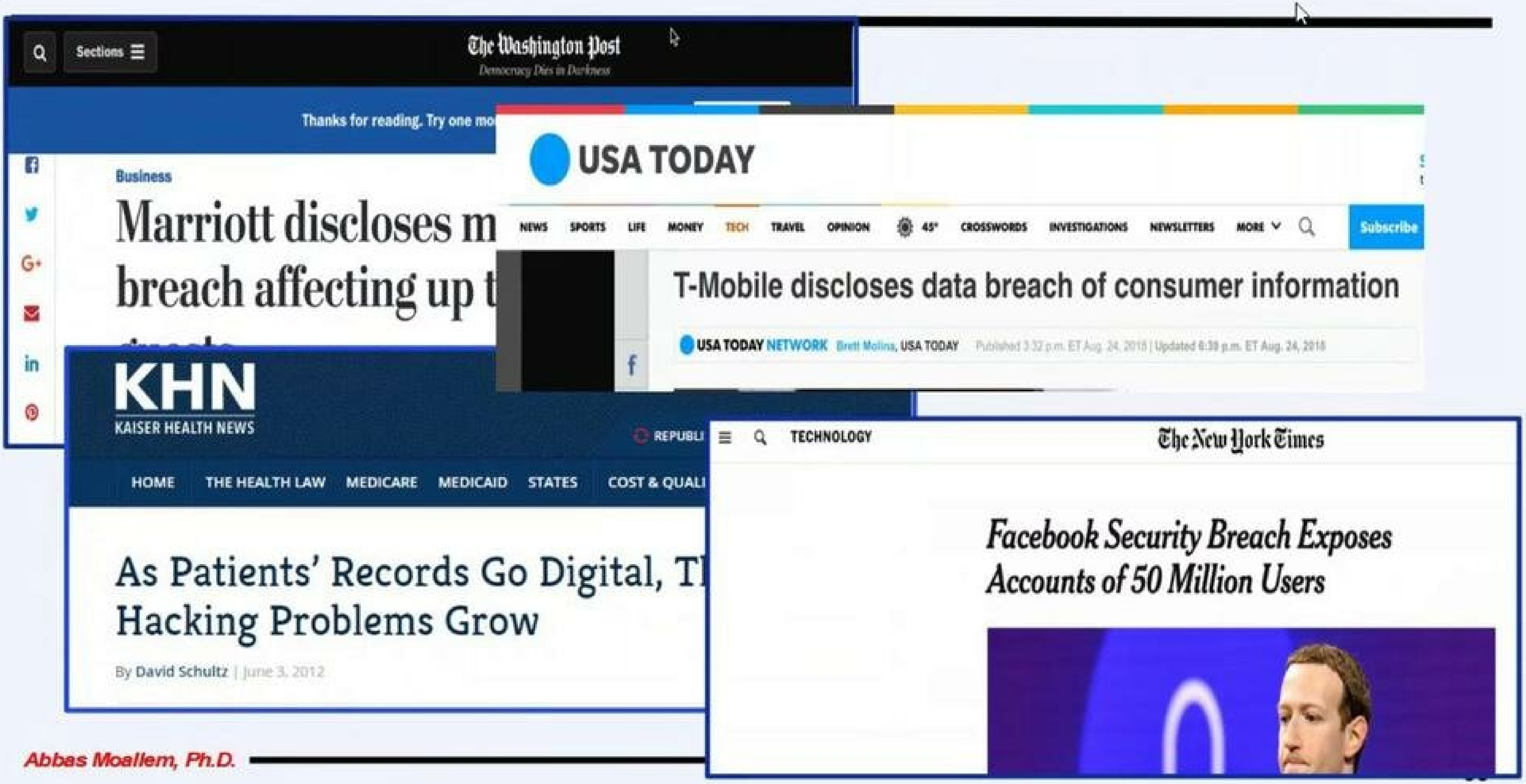
Updated 5:17 PM ET, Tue July 30, 2019

Andres Jauregui

andres.jauregui@huffingtonpost.com

Federal Reserve Confirms Security Breach, Calls Anonymous Hack Claim 'Overstated'

Hacking in the News..



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T-Mobile discloses data breach of consumer information

USA TODAY NETWORK Brett Molina, USA TODAY Published 3:32 p.m. ET Aug. 24, 2018 | Updated 6:39 p.m. ET Aug. 24, 2018

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REPUBLI
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As Patients' Records Go Digital, Tl
Hacking Problems Grow

By David Schultz | June 3, 2012

TECHNOLOGY
The New York Times

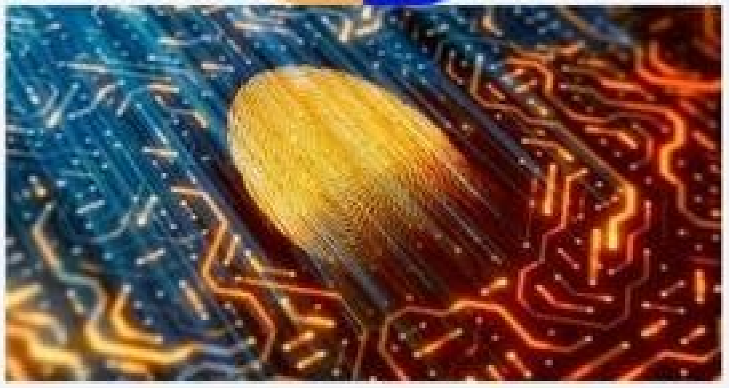
Facebook Security Breach Exposes
Accounts of 50 Million Users

Cyber Crimes

Main forms of cyber-dependent crime

Dark Web

Tools



Within the last year, more than 978 million adults in 20 countries globally experienced cybercrime

According to

Norton
by Symantec

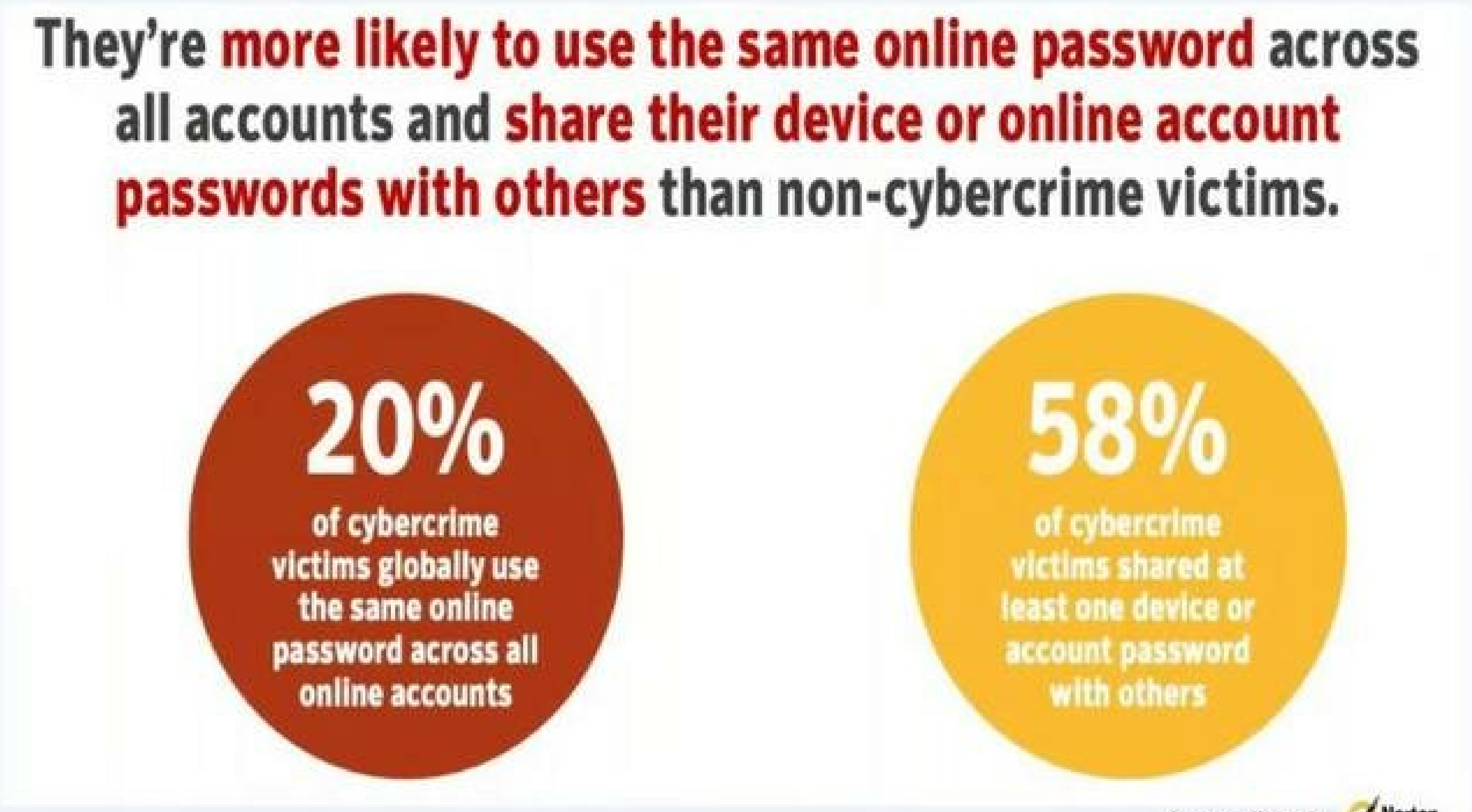
Common Cybercrimes

The most common cybercrimes experienced by consumers or someone they know include:

- Having a device infected by a virus or other security threat (53%)
- Experiencing debit or credit card fraud (38%)
- Having an account password compromised (34%)
- Encountering unauthorized access to or hacking of an email or social media account (34%) o Making a purchase online that turned out to be a scam (33%)
- Clicking on a fraudulent email or providing sensitive (personal/financial) information in response to a fraudulent email (32%)

According to Norton

Example



They're **more likely to use the same online password** across all accounts and **share their device or online account passwords with others** than non-cybercrime victims.

20% of cybercrime victims globally use the same online password across all online accounts

58% of cybercrime victims shared at least one device or account password with others

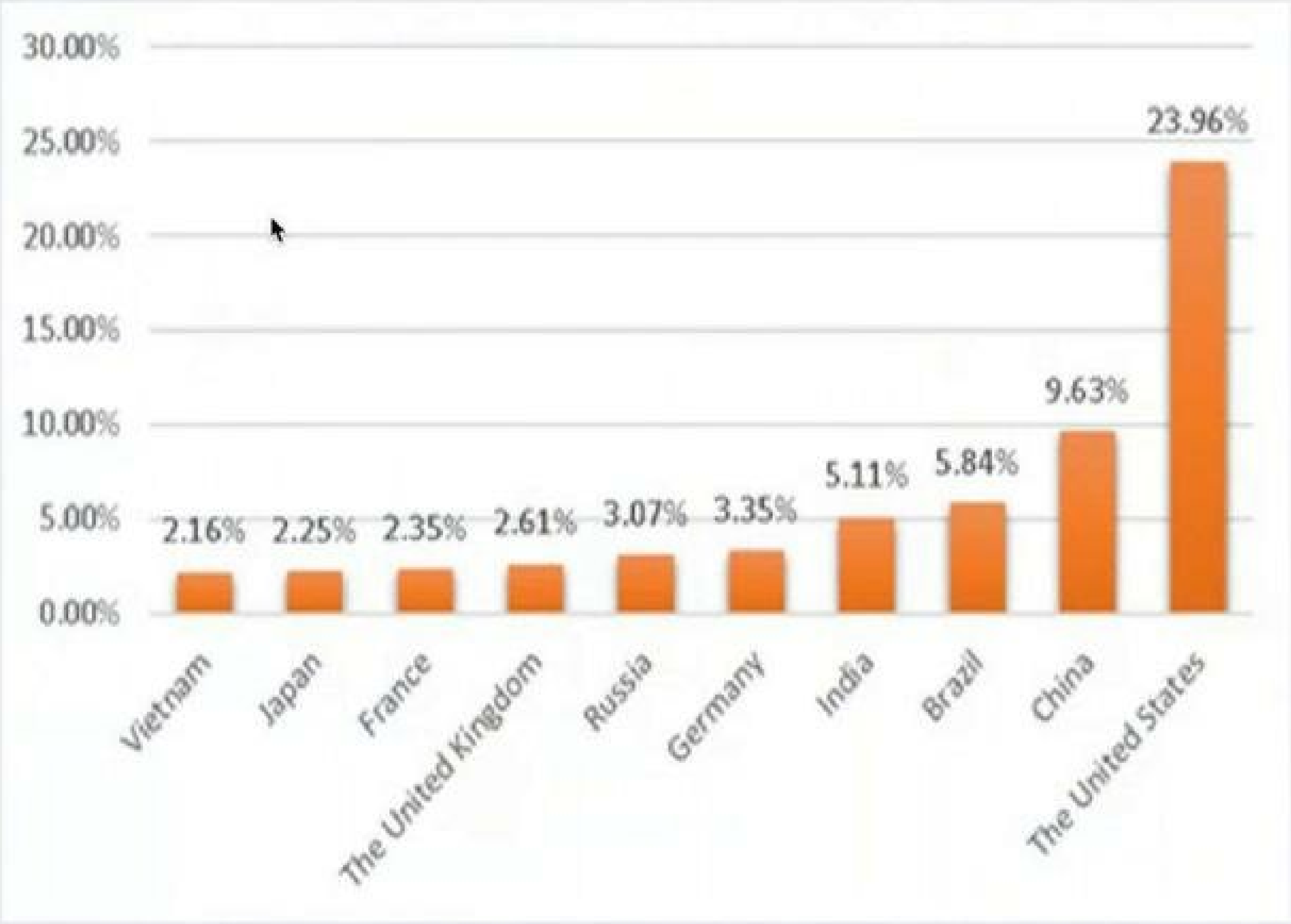
According to Norton

Main forms of cyber-dependent crime

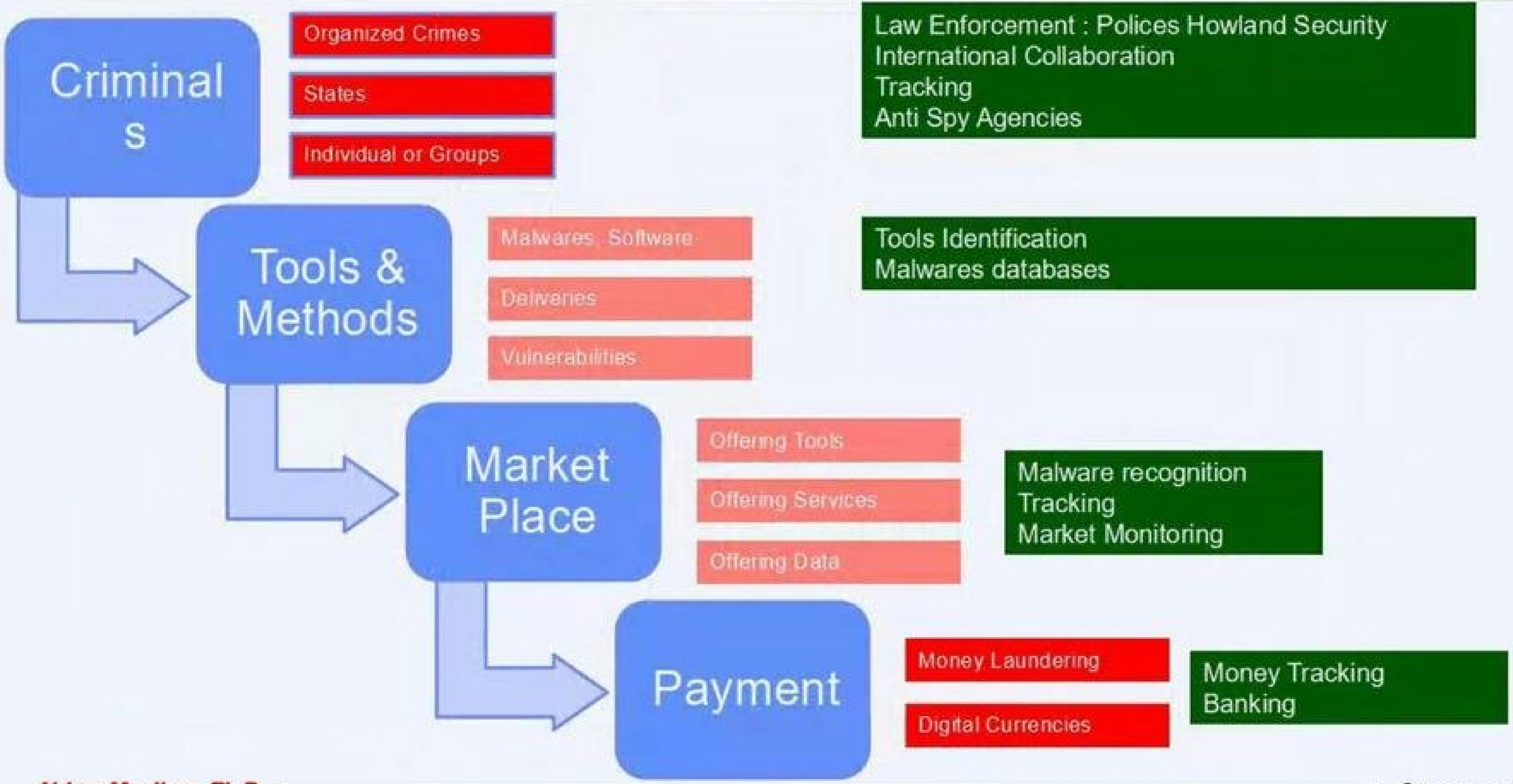
Cyber-dependent crimes fall broadly into two main categories:

- Illicit intrusions into computer networks (for example, hacking);
- The disruption or downgrading of computer functionality and network space (for example, viruses and DDoS attacks).

10 countries that were the source of the most cybercrime in 2016



Cyber Crimes



Criminal s

Organized Crimes

States

Individual or Groups

Law Enforcement : Polices Howland Security
International Collaboration
Tracking
Anti Spy Agencies

Tools & Methods

Malwares, Software

Deliveries

Vulnerabilities

Tools Identification
Malwares databases

Market Place

Offering Tools

Offering Services

Offering Data

Malware recognition
Tracking
Market Monitoring

Payment

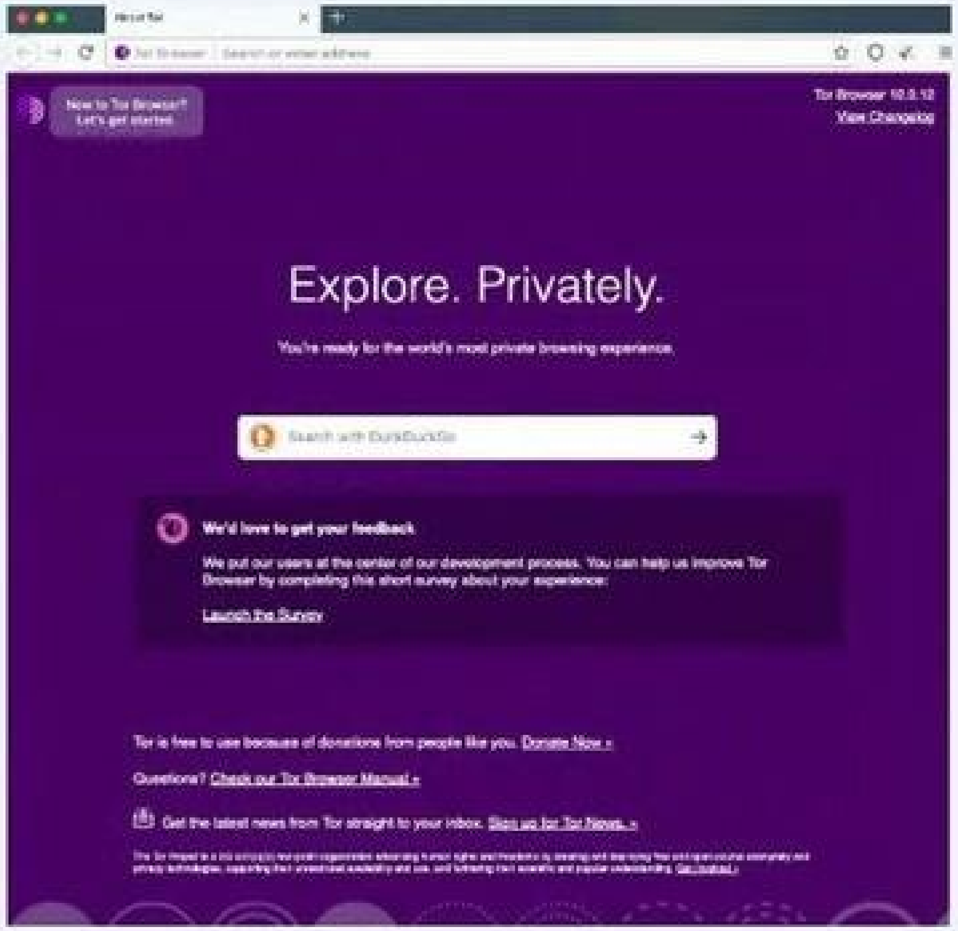
Money Laundering

Digital Currencies

Money Tracking
Banking

TOR Browser

- Tor, short for The Onion Router, is a free, open-source software combined with a global network of servers that helps people stay anonymous online.
- Tor is used not only to browse the internet anonymously but also to host websites hidden behind multiple layers of encryption.



Tor Browser 10.0.12
View Changelog

Explore. Privately.

You're ready for the world's most private browsing experience.

We'd love to get your feedback

We put our users at the center of our development process. You can help us improve Tor Browser by completing this short survey about your experience:

Launch the Survey

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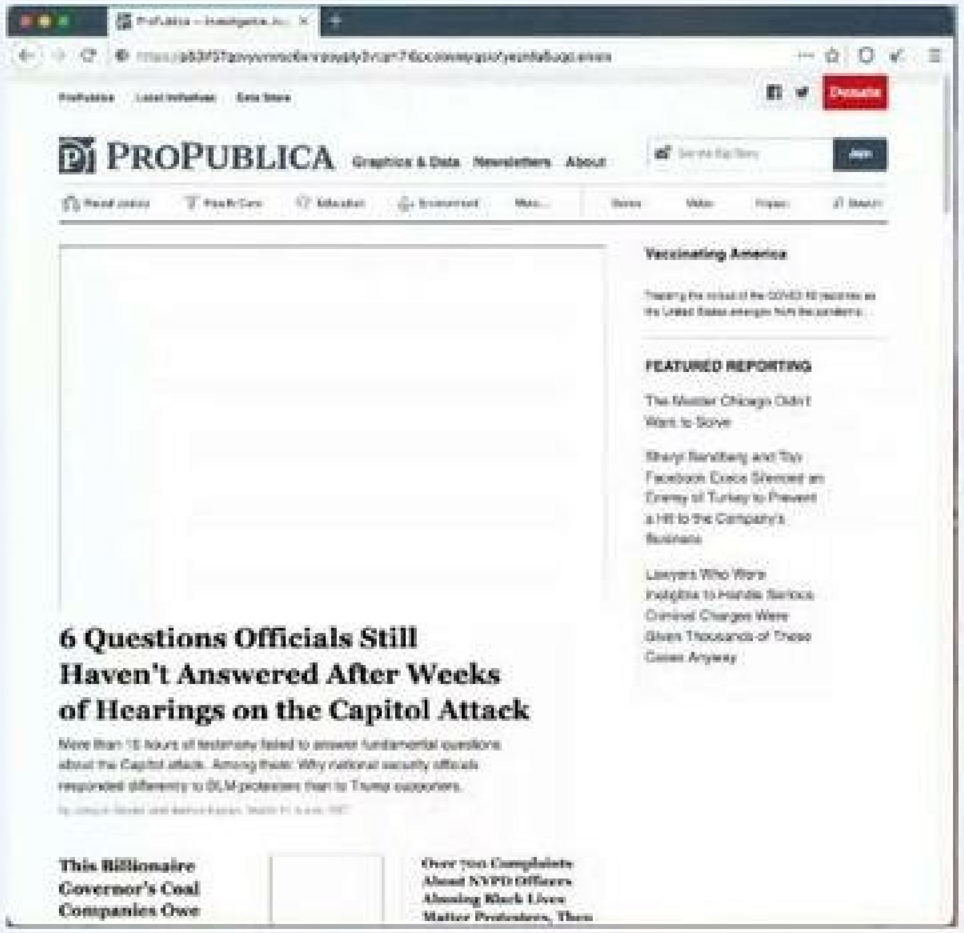
The Tor Project is a US 501(c)(3) non-profit organization advancing human rights and freedoms by creating and deploying free and open source anonymity and privacy technologies, supporting their unrestricted availability and use, and furthering their scientific and popular understanding. Get Involved »

ProPublic

- ProPublic was the first major news organization to launch a.onion version of their website. It was also the first online news publication to win a Pulitzer pri
- **https:// p53lf57qovyuvwsc6xnrppyply3vtqm7l6pcobkmyqsiofyeznfu5uqd.onion/**



Vaccinating America

Tracking the rollout of the COVID-19 vaccines as the United States emerges from the pandemic.

FEATURED REPORTING

The Murder Chicago Didn't Want to Solve

Sheryl Sandberg and Top Facebook Execs Silenced an Enemy of Turkey to Prevent a Hit to the Company's Business

Lawyers Who Were Ineligible to Handle Serious Criminal Charges Were Given Thousands of These Cases Anyway

6 Questions Officials Still Haven't Answered After Weeks of Hearings on the Capitol Attack

More than 15 hours of testimony failed to answer fundamental questions about the Capitol attack. Among them: Why national security officials responded differently to BLM protesters than to Trump supporters.

[illegible]

This Billionaire Governor's Coal Companies Owe

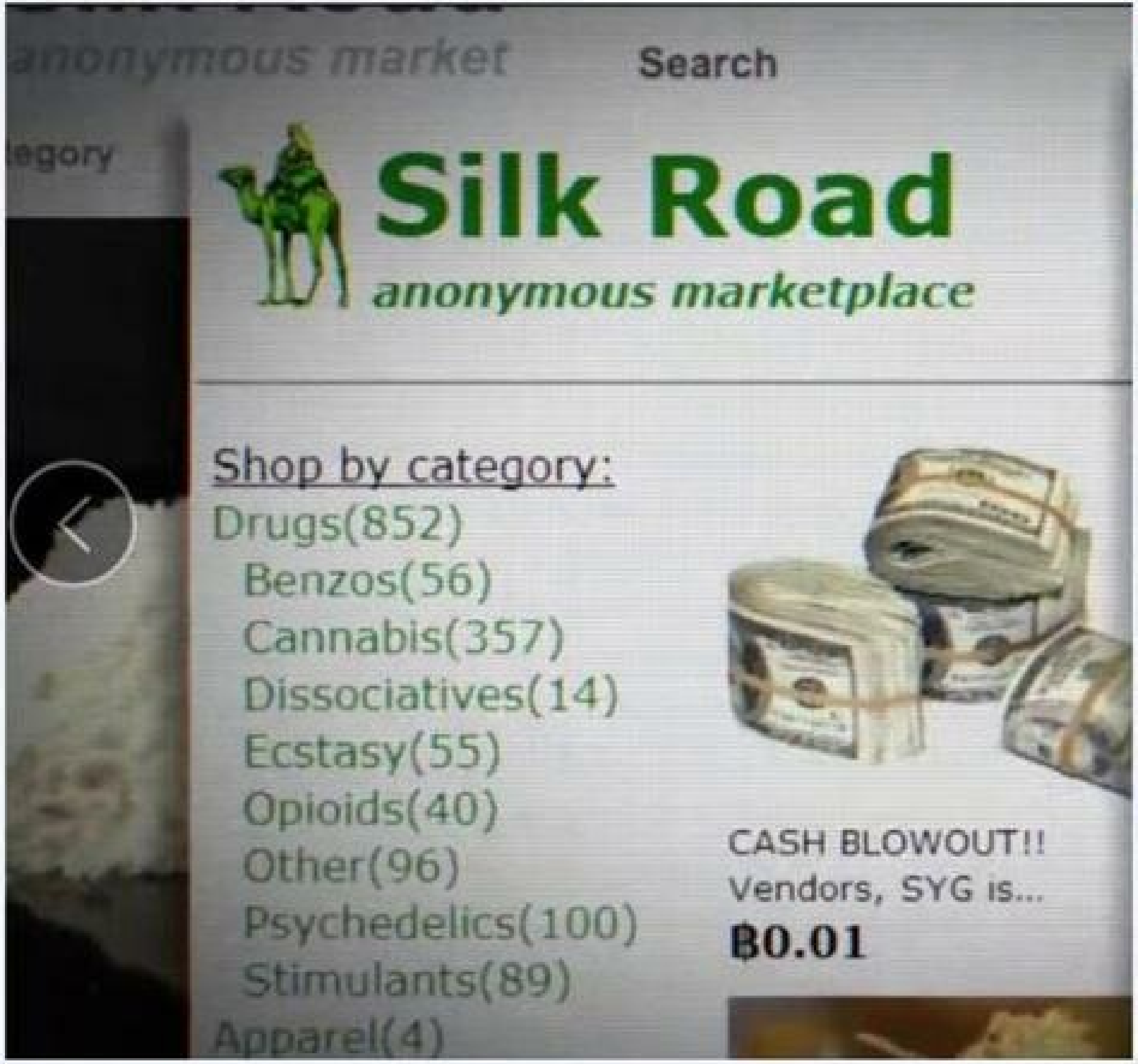
Over 700 Complaints About NYPD Officers Abusing Black Lives Matter Protesters, Then

Dark Web

What is Dark Web?

https://thehackernews.com/2015/02/memex-deep-web-search-engine.html

Dark web Screens



anonymous market

Search

egory

Silk Road

anonymous marketplace

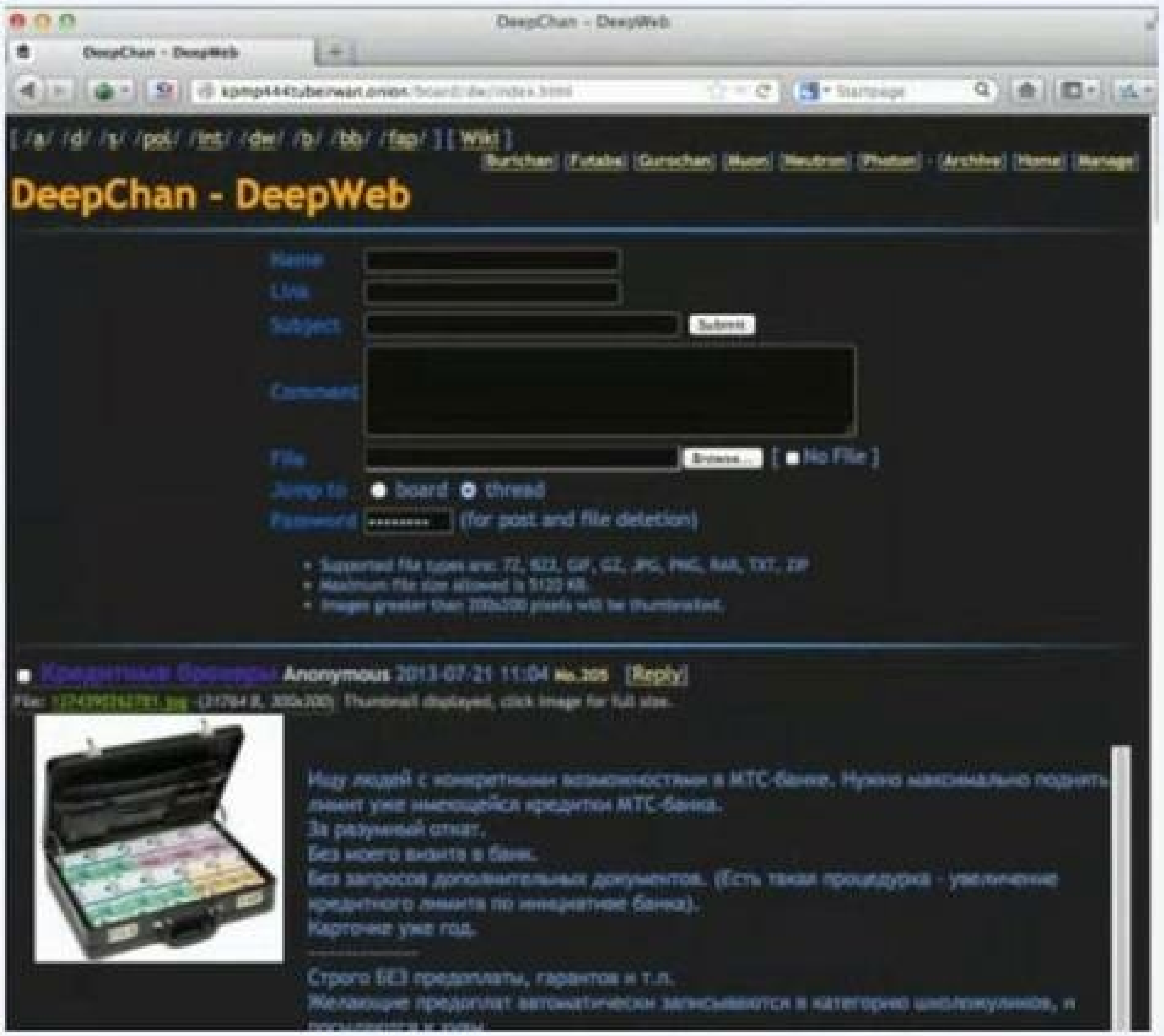
Shop by category:

Drugs(852)

- Benzos(56)
- Cannabis(357)
- Dissociatives(14)
- Ecstasy(55)
- Opioids(40)
- Other(96)
- Psychedelics(100)
- Stimulants(89)

Apparel(4)

CASH BLOWOUT!!
Vendors, SYG is...
฿0.01



DeepChan - DeepWeb
DeepChan - DeepWeb
kpmp444tubeiwan.onion/board/dw/index.html
Startpage
[/a/ /d/ /s/ /pol/ /int/ /dw/ /b/ /bb/ /fap/] [Wiki]
[Burichan] [Futaba] [Gurochan] [Muon] [Neutron] [Photon] - [Archive] [Home] [Manage]

DeepChan - DeepWeb

Name
Link
Subject Submit
Comment
File Browse... [□ No File]
Jump to ○ board ● thread
Password ••••••••• (for post and file deletion)

- Supported file types are: 7Z, BZ2, GIF, GZ, JPG, PNG, RAR, TXT, ZIP
- Maximum file size allowed is 5120 KB.
- Images greater than 200x200 pixels will be thumbnailed.

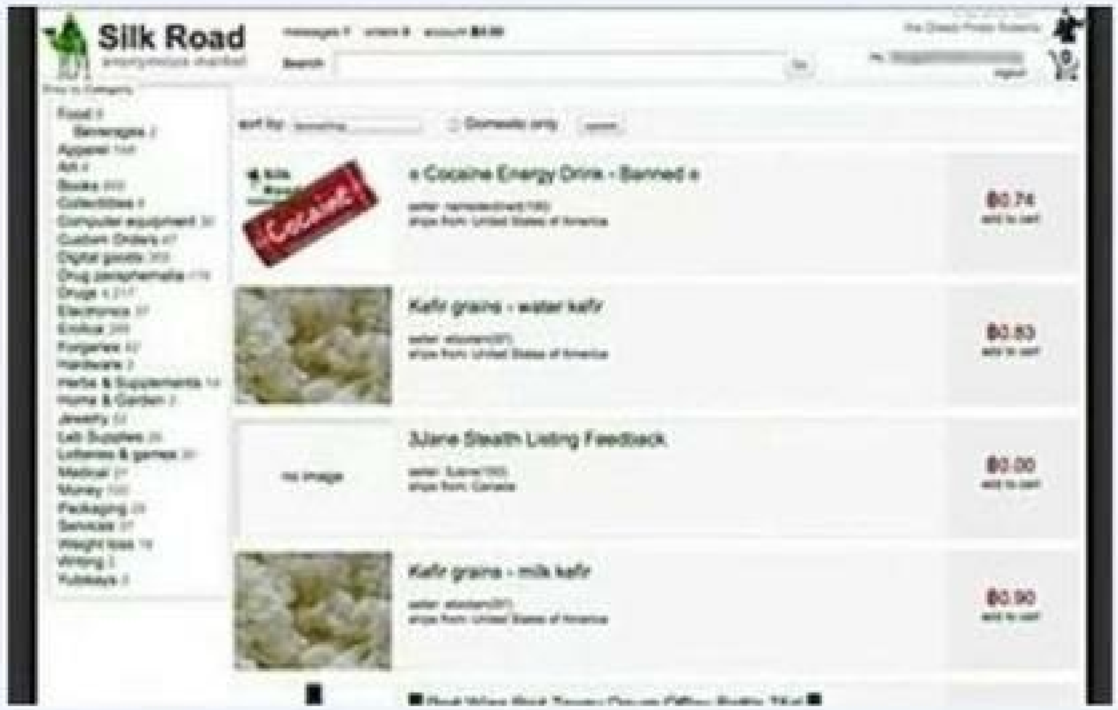
□ Кредитные брокеры Anonymous 2013-07-21 11:04 No.205 [Reply]
File: 1374395762781.jpg -(21784 B, 200x200) Thumbnail displayed, click image for full size.

Ищу людей с конкретными возможностями в МТС-банке. Нужно максимально поднять лимит уже имеющейся кредитки МТС-банка.
За разумный откат.
Без моего визита в банк.
Без запросов дополнительных документов. (Есть такая процедура - увеличение кредитного лимита по инициативе банка).
Карточке уже год.

Строго БЕЗ предоплаты, гарантов и т.п.
Желающие предоплат автоматически записываются в категорию школожуликов, и посылаются к хуям.

Silk Road

- Silk Road was a digital black market platform
- Used for hosting money laundering activities and illegal drug transactions using Bitcoin.
- Was launched in 2011 and shut down by the FBI in 2013.
- It was founded by Ross William Ulbricht, who is now serving a life sentence in prison for his role in Silk Road.



« Cocaine Energy Drink - Banned »
ships from United States of America
฿0.74

Kefir grains - water kefir
ships from United States of America
฿0.83

3Jane Stealth Listing Feedback
ships from Canada
฿0.00

Kefir grains - milk kefir
ships from United States of America
฿0.90

Deep Web

What is Deep Web?

Looking at

10 THINGS YOU NEED TO KNOW TO ABOUT CYBERSECURITY IN HCI

Trust

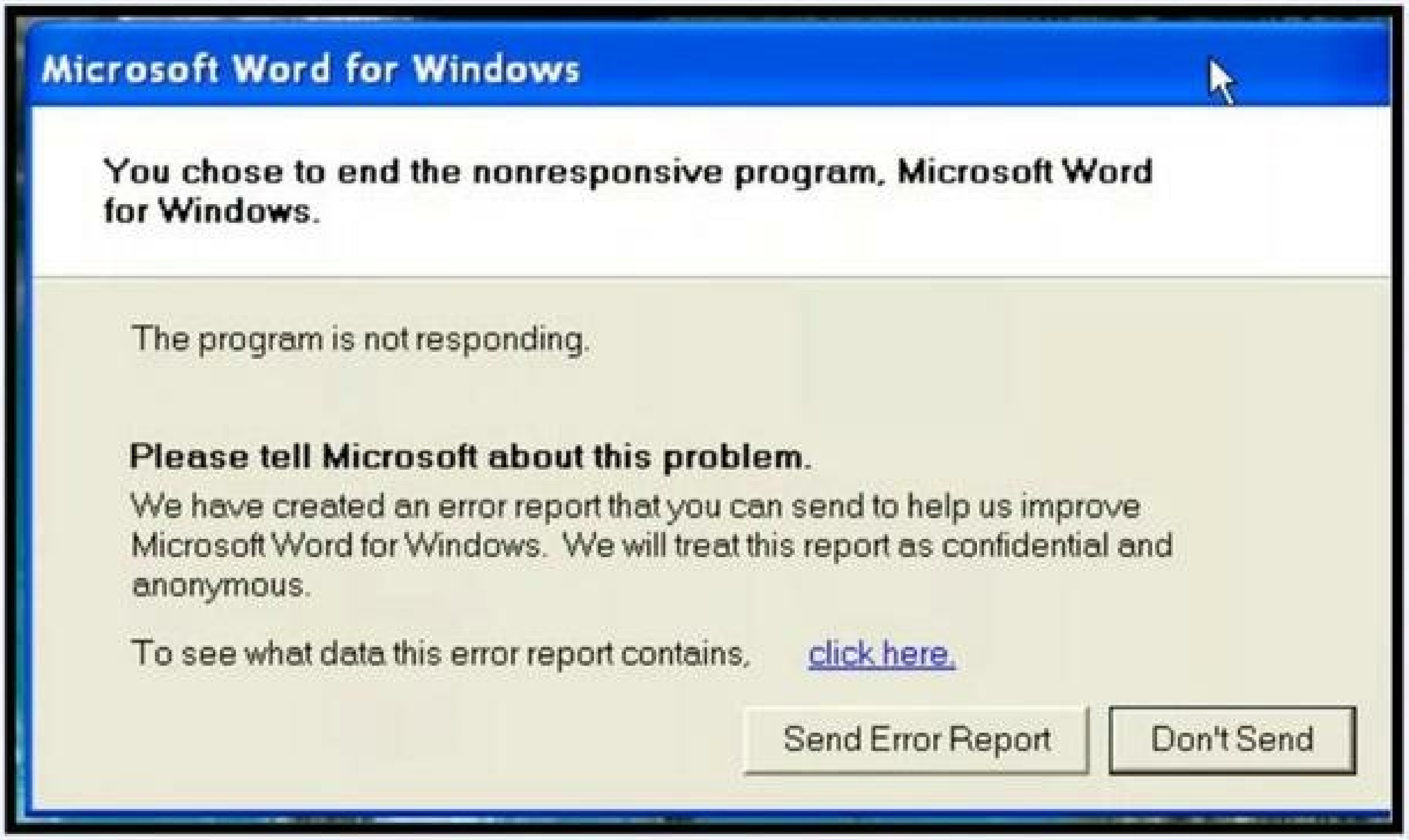
"willingness to be vulnerable to the actions of another party"

"Trust is an adaptation to an uncertain, risky situation; humans apply trust to make decisions and minimize risk."

"Trust is based on a set of beliefs about trustworthiness"

Trust in HCI and Cyber Security

Trust



Microsoft Word for Windows

You chose to end the nonresponsive program, Microsoft Word for Windows.

The program is not responding.

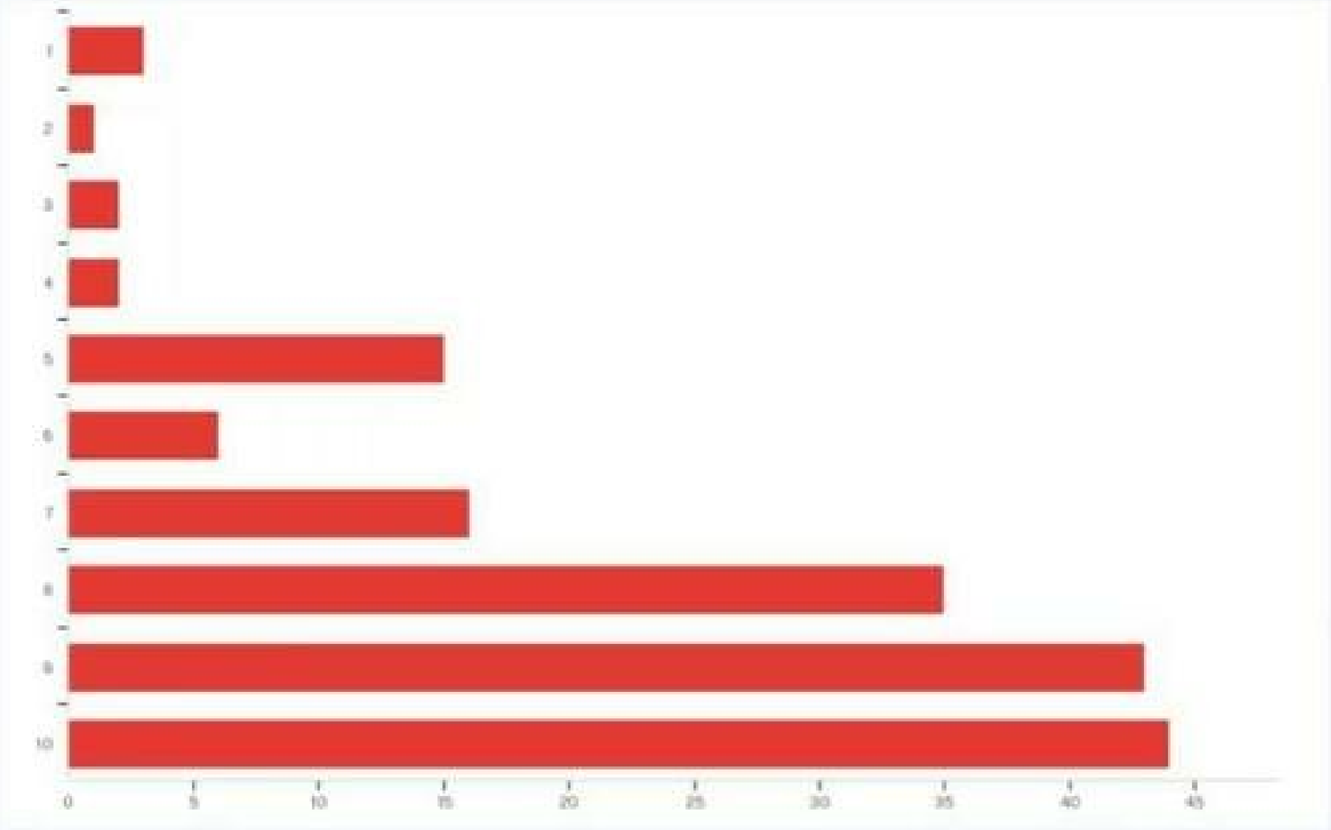
Please tell Microsoft about this problem.

We have created an error report that you can send to help us improve Microsoft Word for Windows. We will treat this report as confidential and anonymous.

To see what data this error report contains, click here.

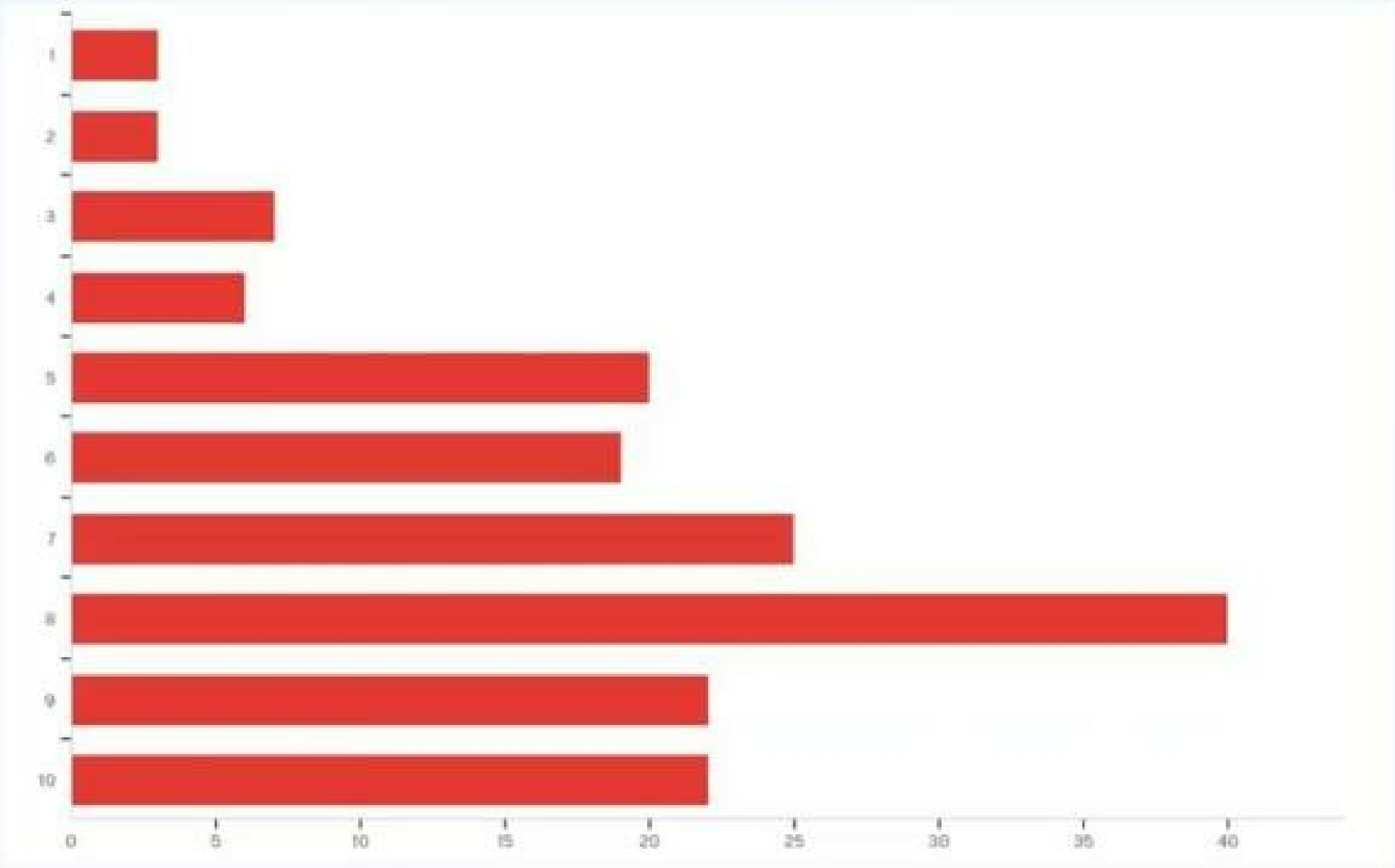
Trust

You decide to pay your car registration fee at the DMV office near your home. How confident are you that your transaction, including your personal information and payment information will be safe? on a scale of 1 to 10, 1 = least confident and 10=very confident.



Trust

You decide to pay your registration fee through the DMV website. How confident are you that your transaction, including your personal information and payment information will be safe? 1=least confident and 10= very confident



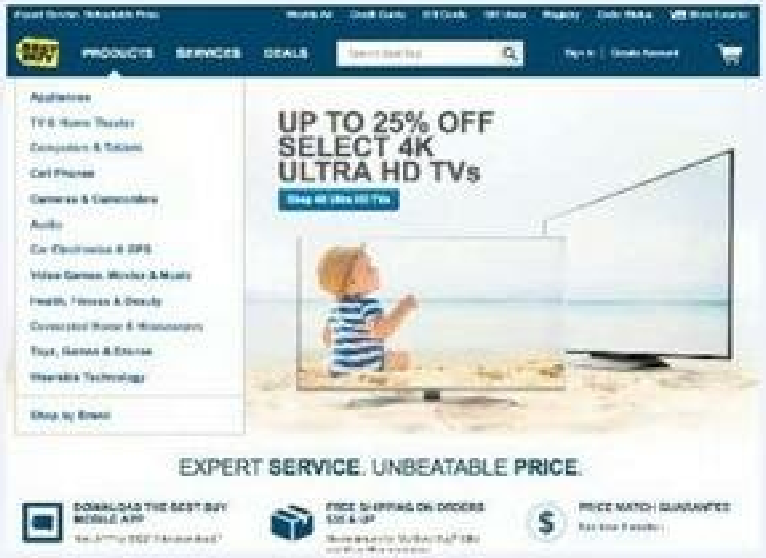
Questions

- Do you trust your computer?
- Do you trust the IM that you are using to communicate with your connection online?
- Do you trust the networking application that you are using?
- Do you trust you smart phone?
- Do you trust the cloud service that you are using to backup your pictures?
- Do you trust your email application?

Which One Do You Trust More?

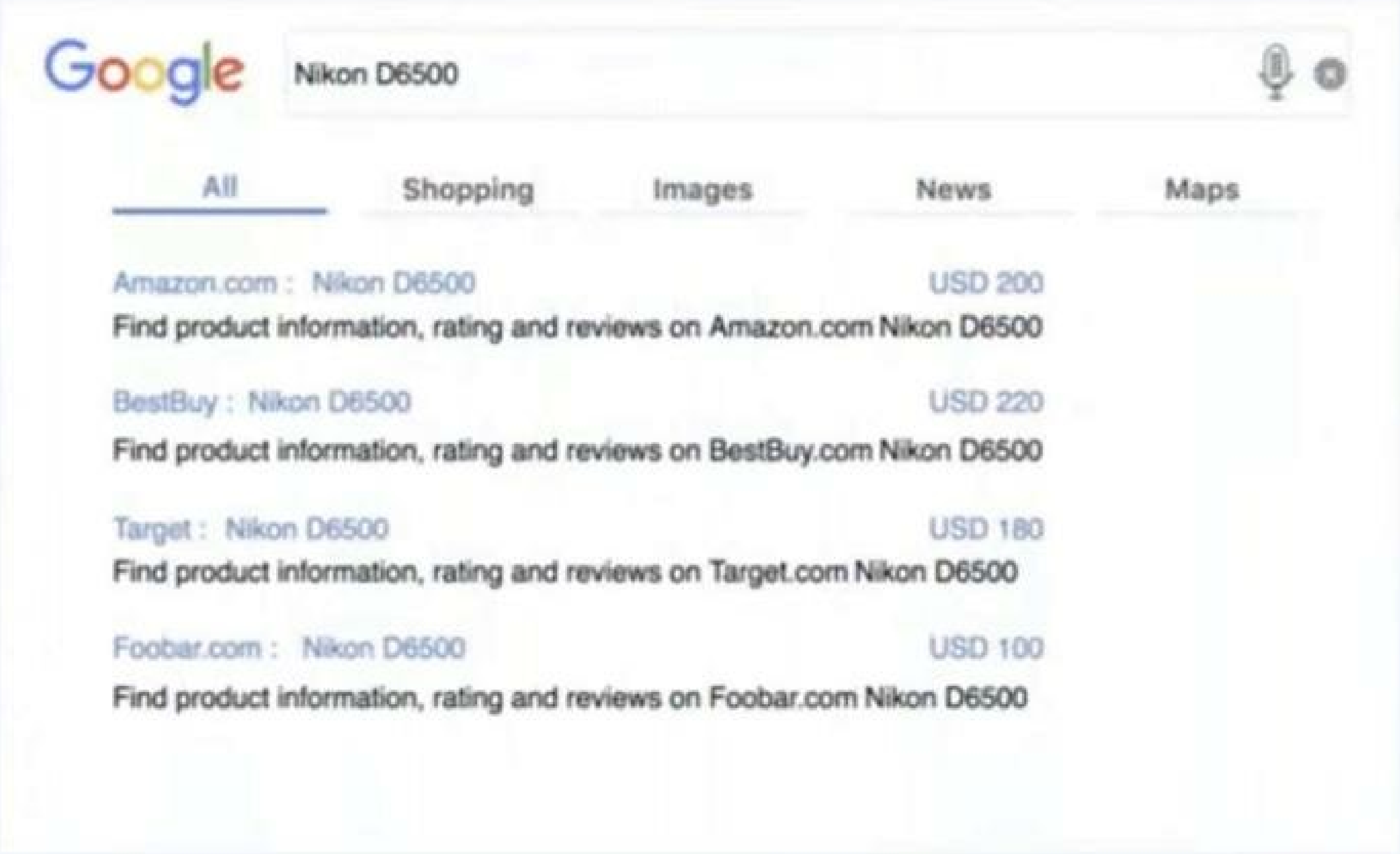
Physical Store

Online Store



Traditional Bazars

Question



Nikon D6500

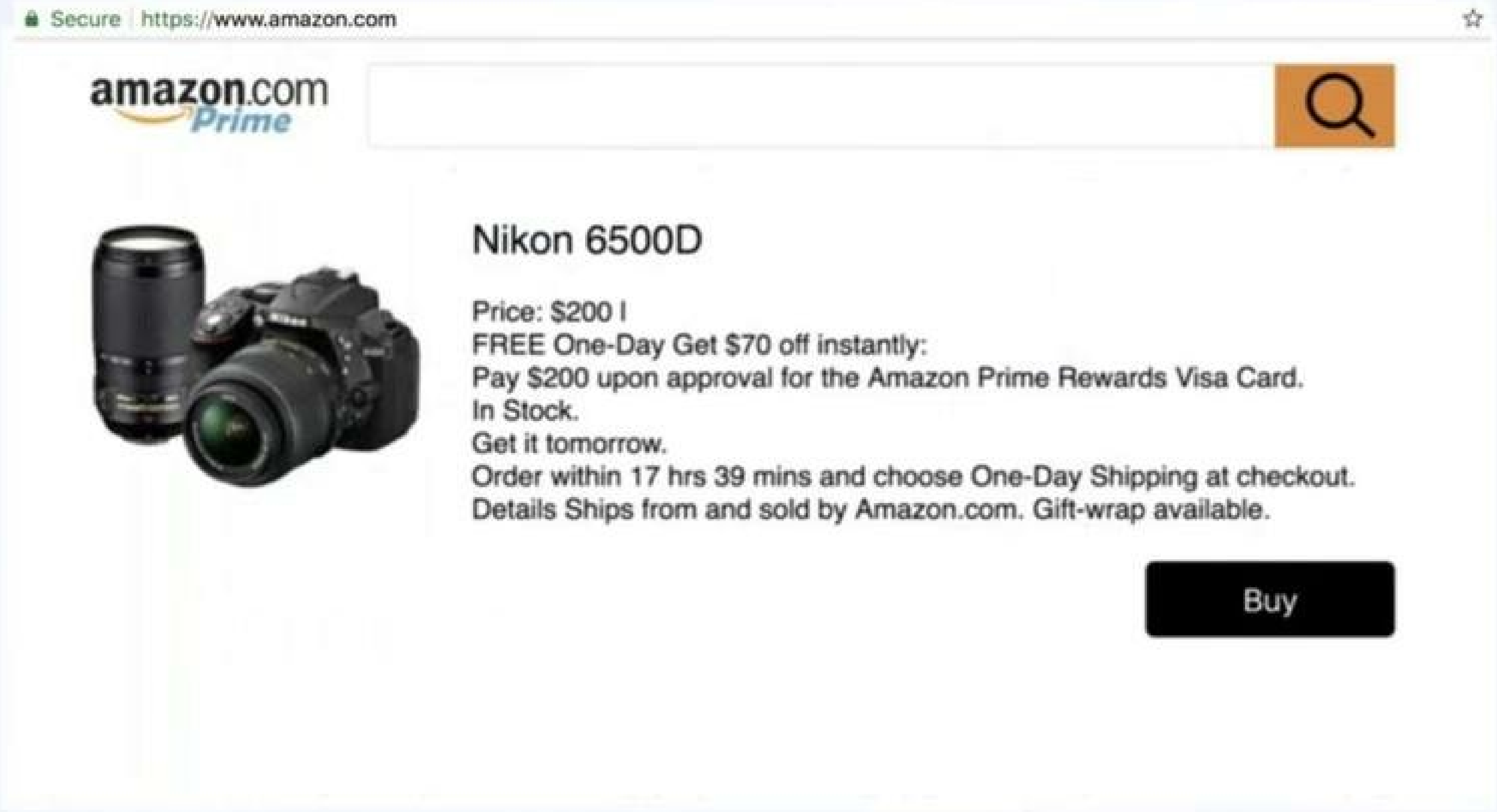
Amazon.com : Nikon D6500 USD 200
Find product information, rating and reviews on Amazon.com Nikon D6500

BestBuy : Nikon D6500 USD 220
Find product information, rating and reviews on BestBuy.com Nikon D6500

Target : Nikon D6500 USD 180
Find product information, rating and reviews on Target.com Nikon D6500

Foobar.com : Nikon D6500 USD 100
Find product information, rating and reviews on Foobar.com Nikon D6500

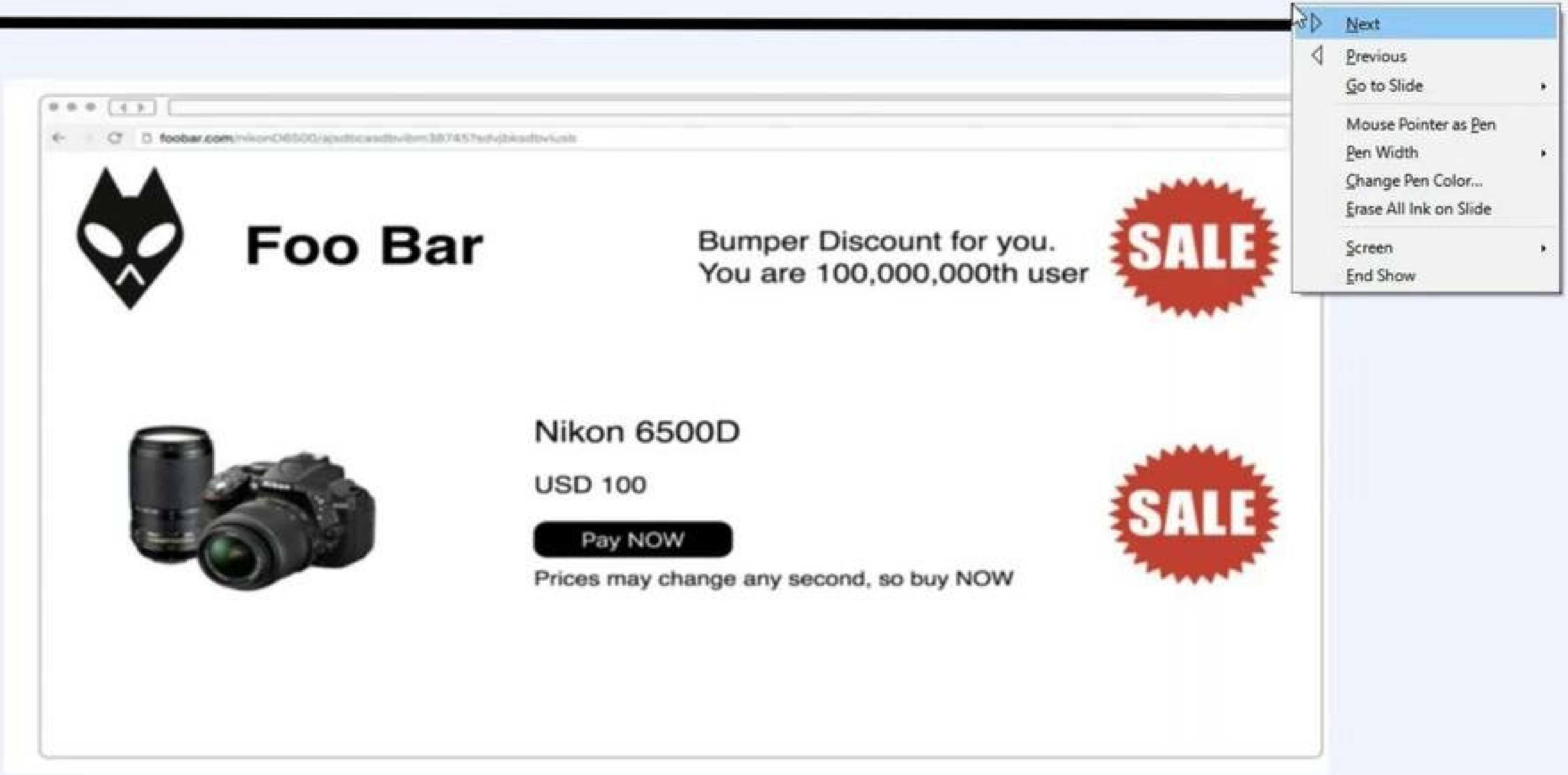
Amazon



Nikon 6500D

Price: $200 I
FREE One-Day Get $70 off instantly:
Pay $200 upon approval for the Amazon Prime Rewards Visa Card.
In Stock.
Get it tomorrow.
Order within 17 hrs 39 mins and choose One-Day Shipping at checkout.
Details Ships from and sold by Amazon.com. Gift-wrap available.

Foobar



Foo Bar

Bumper Discount for you.
You are 100,000,000th user

Nikon 6500D

USD 100

Pay NOW

Prices may change any second, so buy NOW

Trust

Trust is based on a set of beliefs about trustworthiness

- Mayer et al <an interactive model of organizational trust" Academy of management review 20:3 (1995) 709-734

Trust

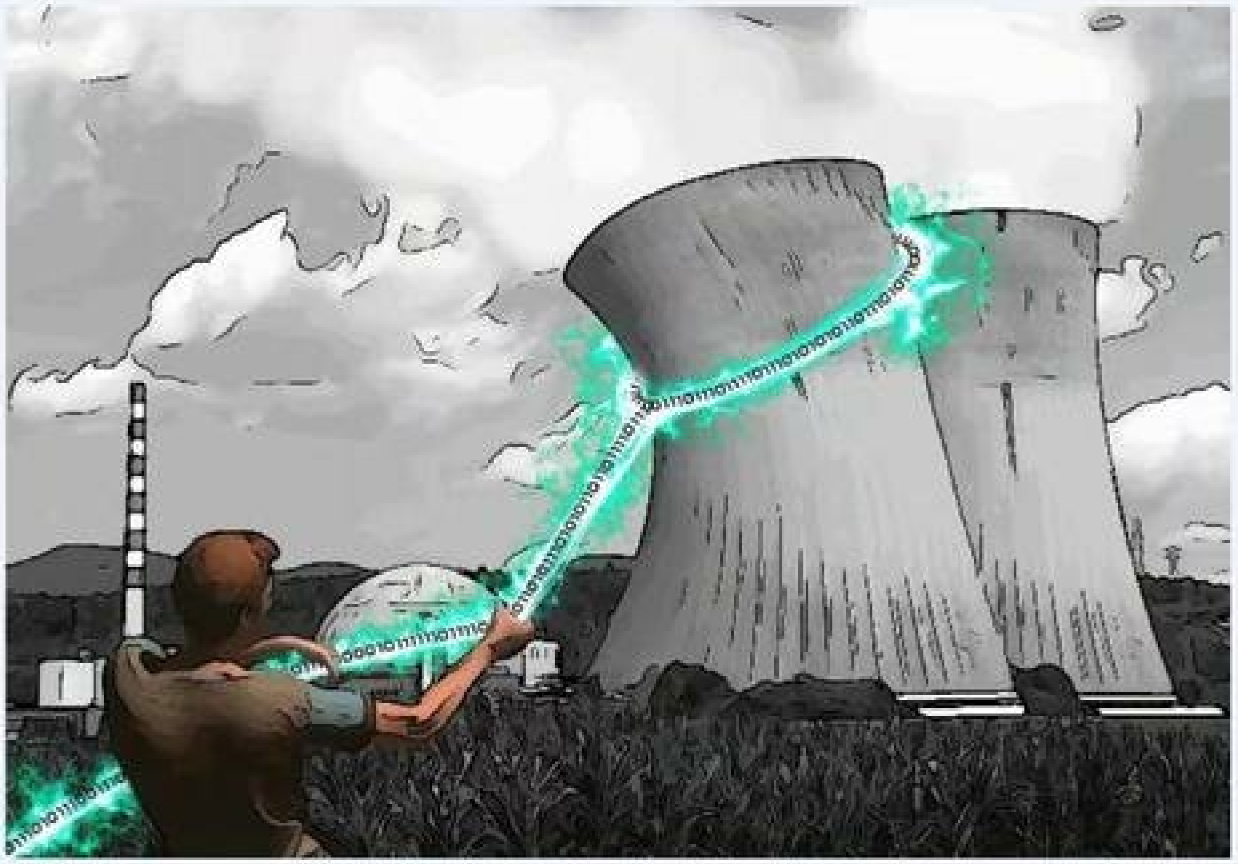
"Reliance upon information received from another person about uncertain environmental states and their accompanying outcomes in a risky situation"

Schlenker/Helm/Tedeschi, 1973

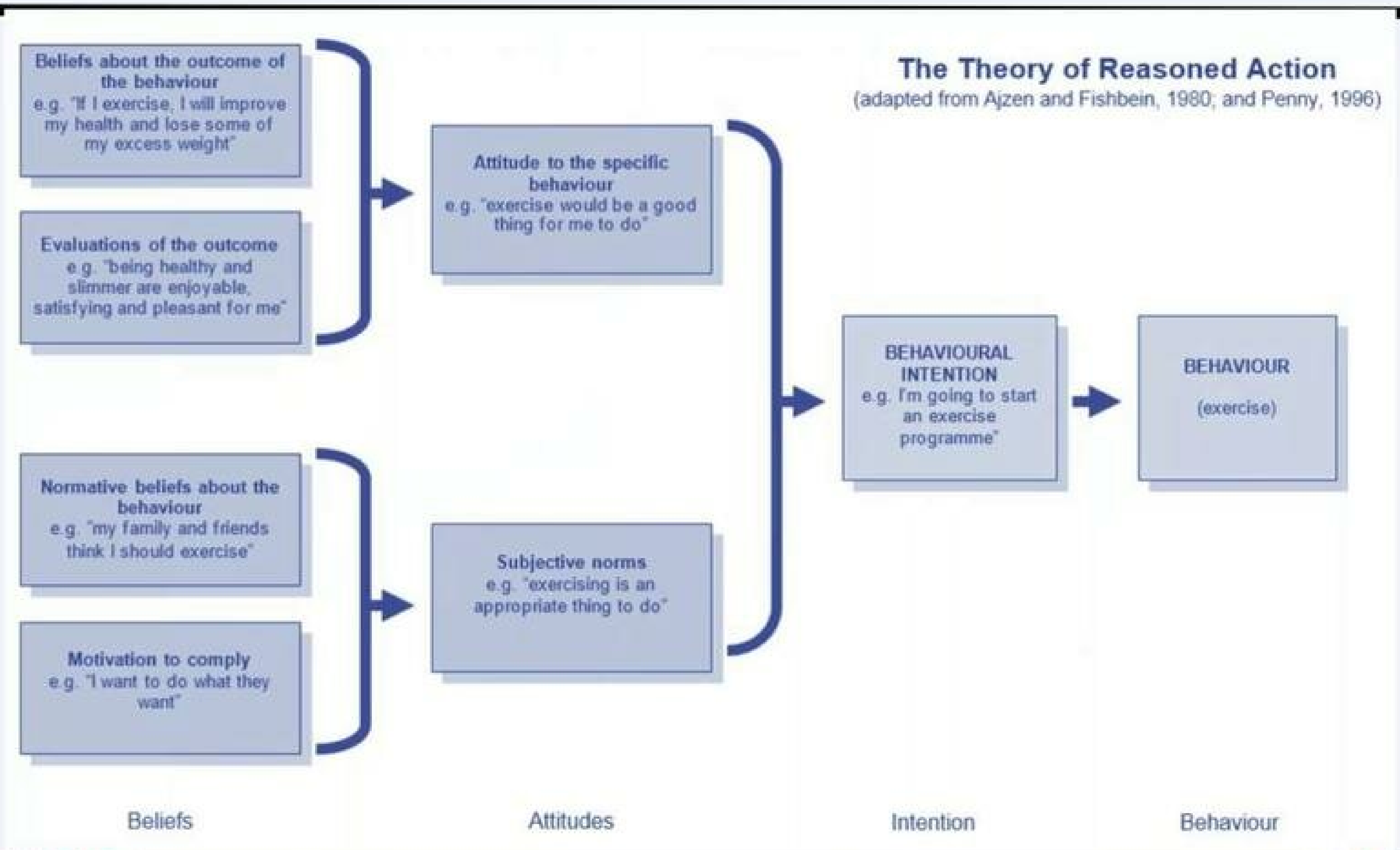
Trust as a social psychological construct

Level of Trust:

- Trust in a specific person (relational trust),
- Trust in people in general (generalized trust),
- Trust in abstract systems.



Theory of Reasoned Action



The Theory of Reasoned Action

(adapted from Ajzen and Fishbein, 1980; and Penny, 1996)

Beliefs about the outcome of the behaviour
e.g. "If I exercise, I will improve my health and lose some of my excess weight"

Evaluations of the outcome
e.g. "being healthy and slimmer are enjoyable, satisfying and pleasant for me"

Normative beliefs about the behaviour
e.g. "my family and friends think I should exercise"

Motivation to comply
e.g. "I want to do what they want"

Attitude to the specific behaviour
e.g. "exercise would be a good thing for me to do"

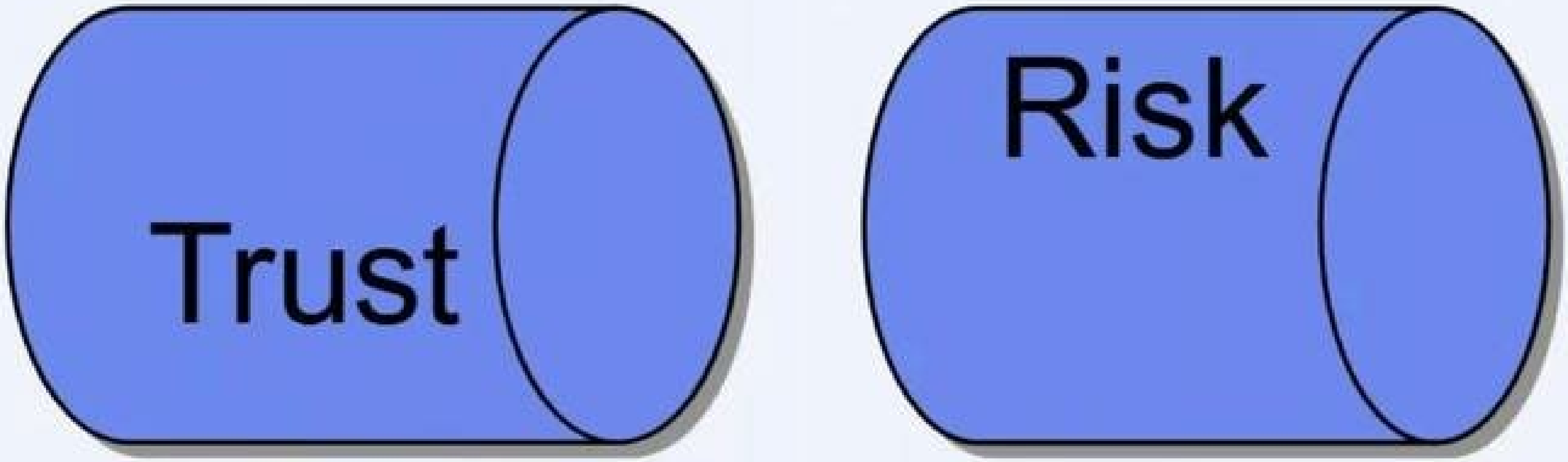
Subjective norms
e.g. "exercising is an appropriate thing to do"

BEHAVIOURAL INTENTION
e.g. I'm going to start an exercise programme"

BEHAVIOUR
(exercise)

Social Psychology & Trust

- Trust and risk are complementary terms in social relations.
- Those who trust others do not look for high security before they act.

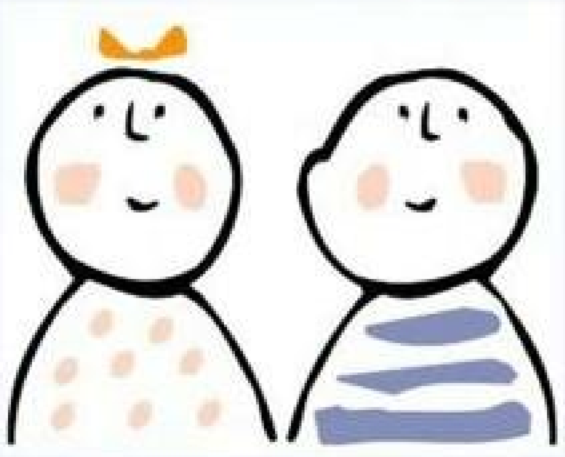


Trust

Risk

Levels of Trust

Relational Trust



Trust in another person

Generalized Trust

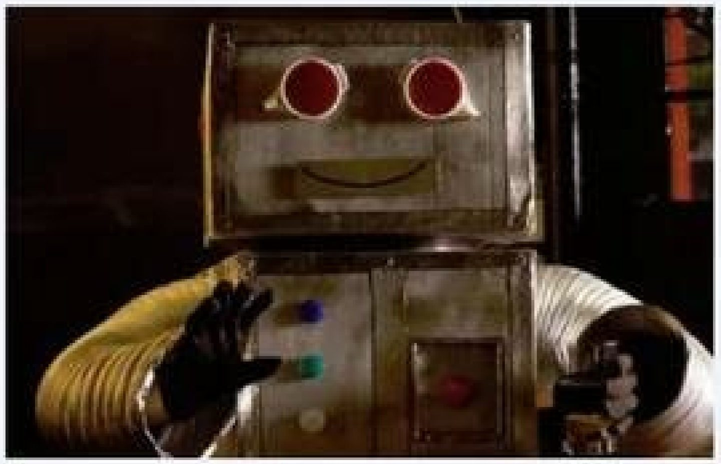
Trust in a group, a community, an organization

Trust in a System

Trust in a community or an organization

Cooperation of work groups in virtual organizations which are linked, distributed.

Trust

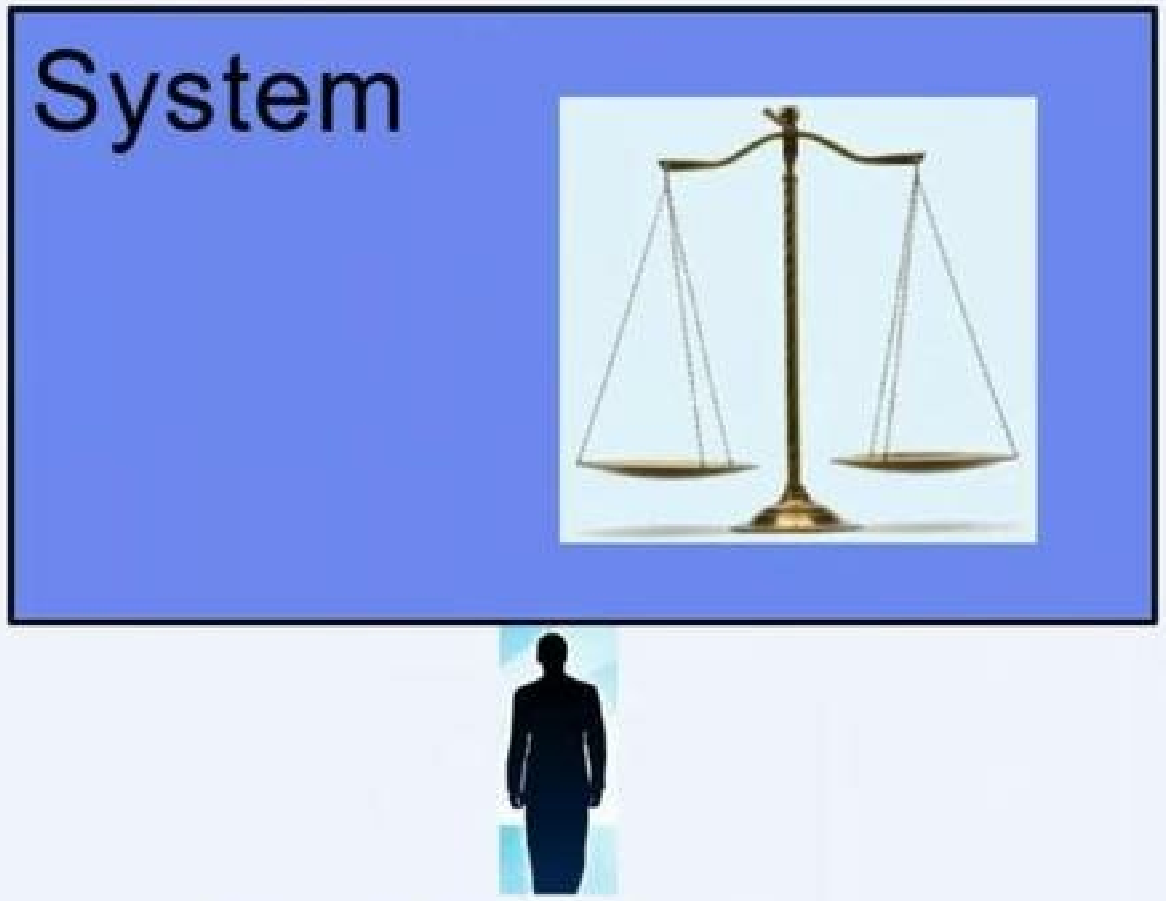


Machine

Process

Computer

Trust in Systems



System

Trust in a System

Trust in a System

- Trust on the Internet is system trust which is associated with abstract systems.
- System trust is a relevant factor because the technical processes which make up the Internet are in general not transparent for the user (Krystek 2003).
- Giddens (1991) considers the formation of such abstract systems a central characteristic in the development of modern societies (cf. Fiedler 2003).

Trust on System

Automated Driving Cars

800 × 367 - gizmodo.com

.Trust in Computer

Computer

Making Decisions Based on Trust

Should I…

- Open this email?
- Click on this link?
- Enter my information?
- Enter my credit card number?
- Believe the information that I am reading?

Question

To access a web application (for example your bank account) or website, you must point your browser to the location (the page).

How do you point your browser to a specific location?

Question

Methods Used to Access a Specific Location:

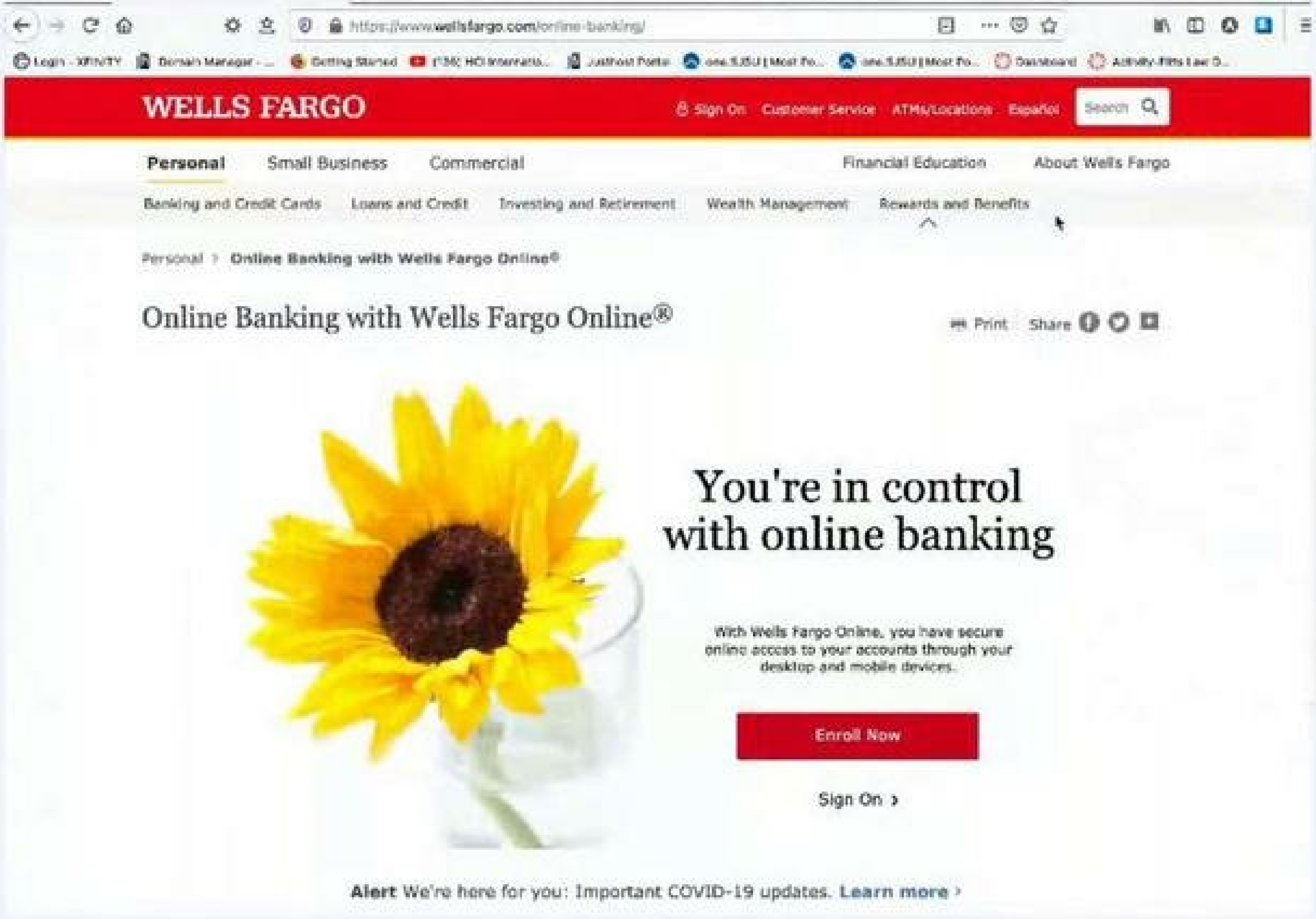
- ☑ – Typing the URL or domain name into the address bar
- ☑ – Using a search field
- ☑ – Using a saved bookmark
- ☑ – Clicking on a link from another page

Questions

Assume you are viewing a website:

- How do you check to see if the site is valid and not a phishing site or parking page?
- Is the site using a safe connection?
- What would be your behavior when you land on an application web page?

How do you know this site is not a phishing site?



Online Banking with Wells Fargo Online®

You're in control with online banking

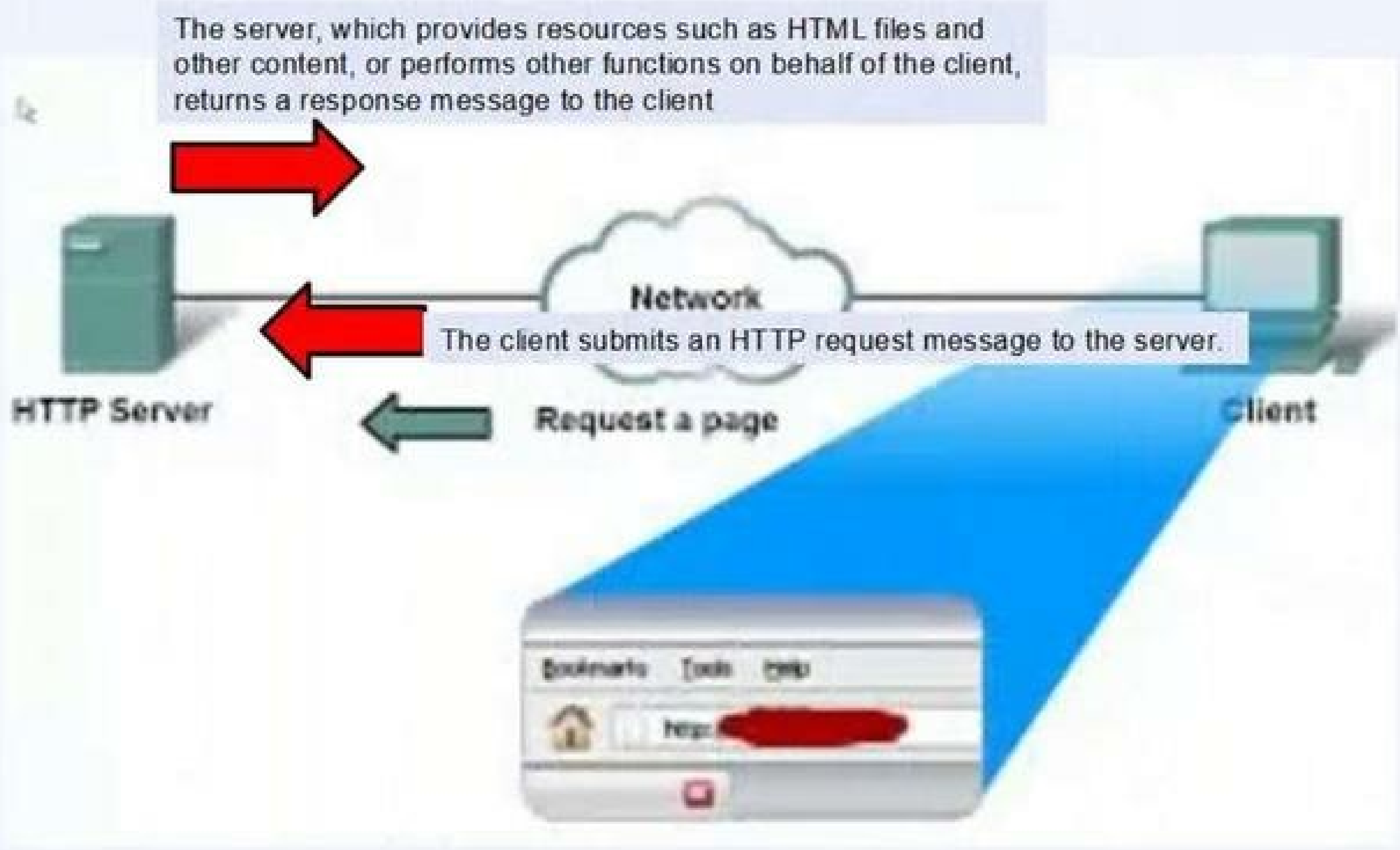
With Wells Fargo Online, you have secure online access to your accounts through your desktop and mobile devices.

Alert We're here for you: Important COVID-19 updates. **Learn more ›**

Internet Protocol (IP)

- Internet Protocol (IP) is the method or protocol by which data is sent from one computer to another on the Internet.
- Each computer on the Internet has at least one IP address as a unique identifier.

HTTP Protocol



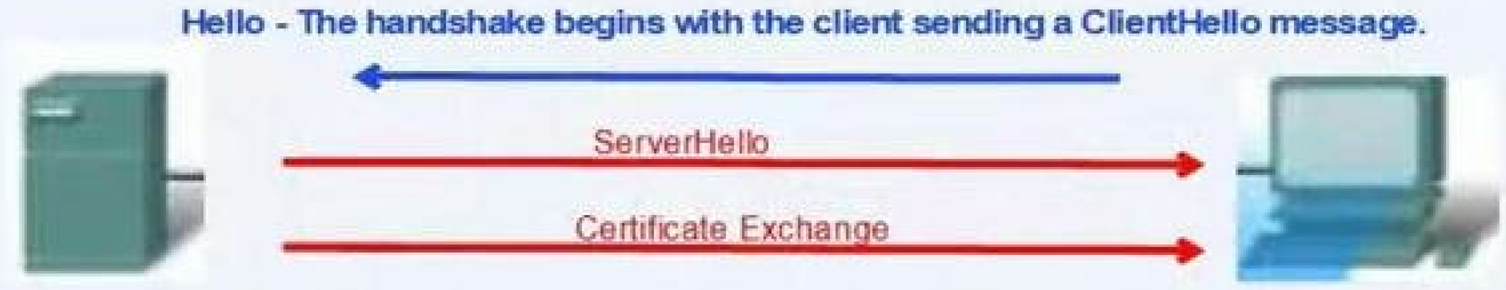
The server, which provides resources such as HTML files and other content, or performs other functions on behalf of the client, returns a response message to the client

The client submits an HTTP request message to the server.

HTTPS

HTTPS is a protocol for secure communication over a computer network on the Internet.

HTTP with SSL/TLS encryption layer on top of it



Hello - The handshake begins with the client sending a ClientHello message.
ServerHello
Certificate Exchange

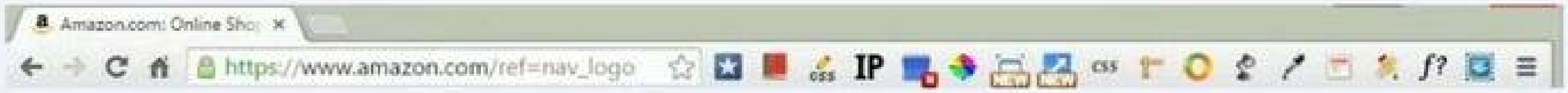
SSL Certificates

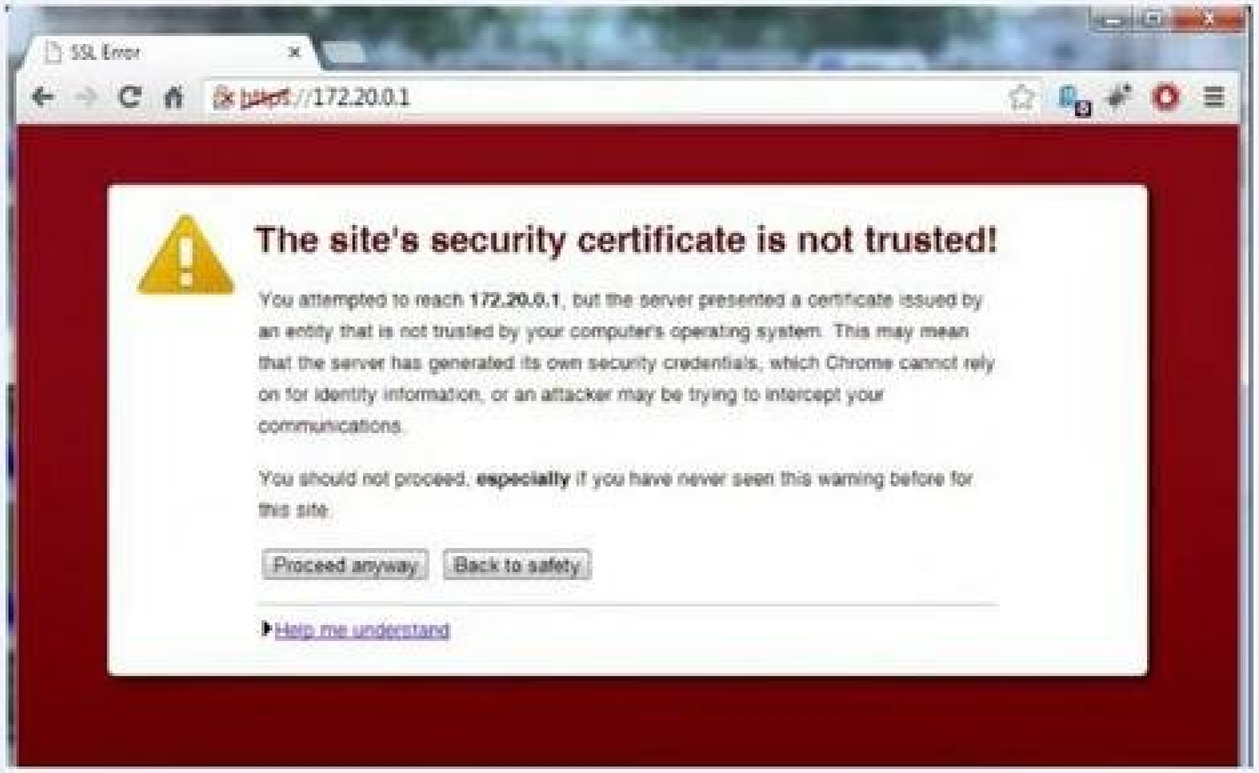
- SSL Certificates are small data files that digitally bind a cryptographic key to an organization's details.
- When installed on a web server, they activate the padlock and the https protocol (over port 443) and allows secure connections from a web server to a browser.

Root Certificates

- SSL Certificates need to be issued from a trusted Certificate Authority's Root Certificate.
- The Root Certificate must be present on the end user's machine in order for the Certificate to be trusted.
- If it is not trusted the browser will present untrusted error messages to the end user.

Invalid Certificates





The site's security certificate is not trusted!

You attempted to reach **172.20.0.1**, but the server presented a certificate issued by an entity that is not trusted by your computer's operating system. This may mean that the server has generated its own security credentials, which Chrome cannot rely on for identity information, or an attacker may be trying to intercept your communications.

You should not proceed, **especially** if you have never seen this warning before for this site.

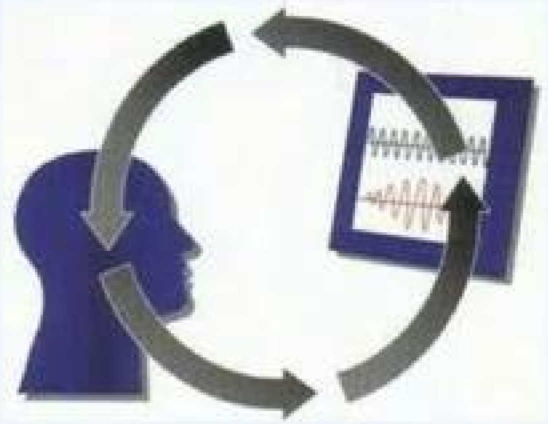
Trustworthiness

- Brand
- Technological Sophistication
- Navigation
- Presentation
- Fulfillment

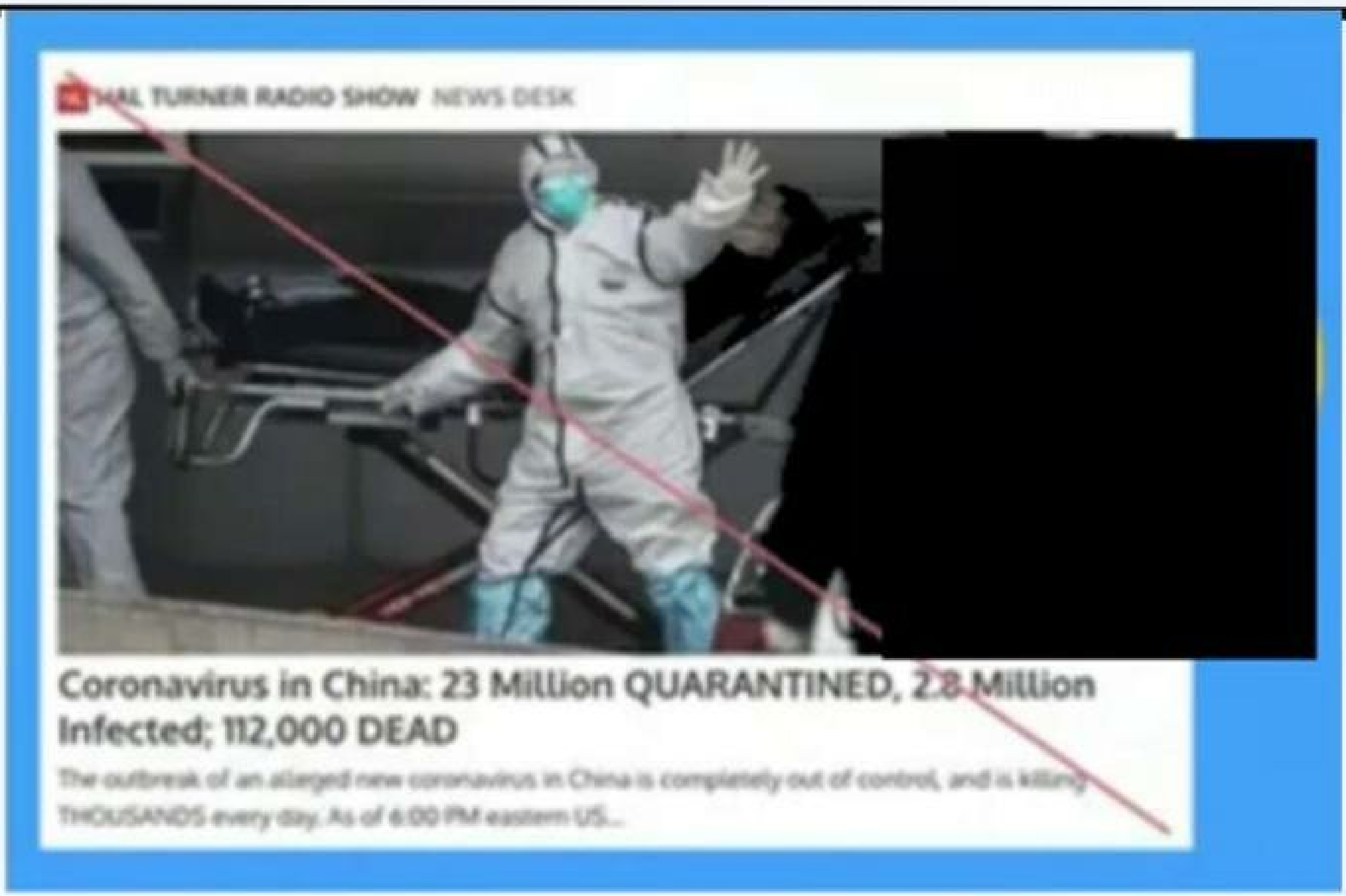
Techniques for Validating Sites

The most common techniques for validating sites, in order of most secure, are:

- ☑ Checking external certificates
- ☑ Checking connection HTTPS
- ☑ Checking the site's reputation by looking at the appearance and content of the site
- ☑ Relying on third-party applications to check the validity of the visited site



Fake or Real



HAL TURNER RADIO SHOW NEWS DESK

[redacted]

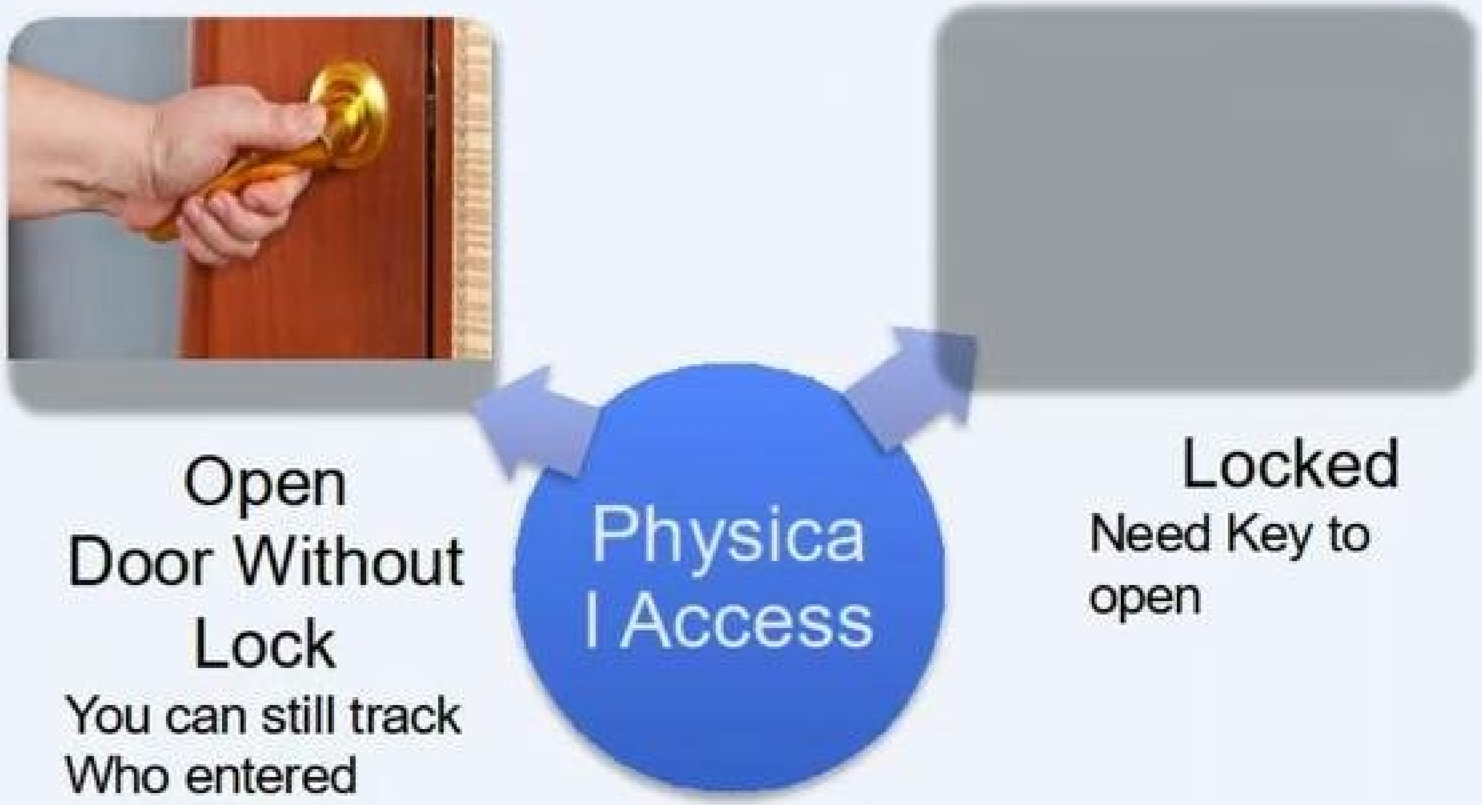
Coronavirus in China: 23 Million QUARANTINED, 2.8 Million Infected; 112,000 DEAD

The outbreak of an alleged new coronavirus in China is completely out of control, and is killing THOUSANDS every day. As of 6:00 PM eastern US...

Authentication

- Access control is the selective restriction of access to a place or computer system.
- Permission to access a resource is called authorization.

Access



Open
Door Without
Lock

You can still track
Who entered
Time entered and
left

…

Physica
l Access

Locked

Need Key to
open

Locked Doors

Question

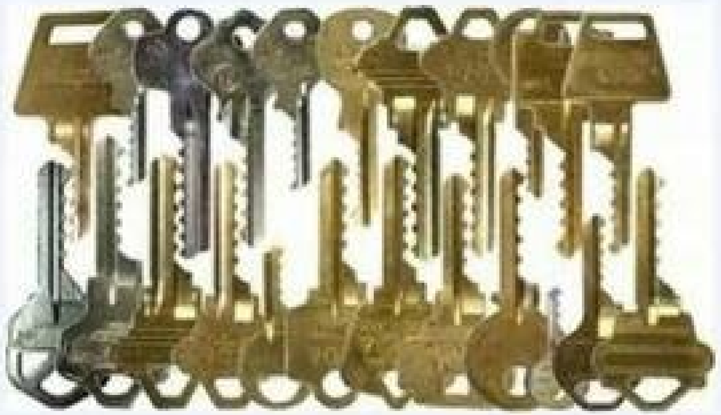
What would be easiest way to open these locks?

1
2
3
4
5
6
7
8
9
0

Unauthorized Access

All Access Systems Need Keys

One or Multiple Locks



One or Multiple Keys

Simple Lock

Complex Lock

All Locks Can be Opened

Simple Lock

Easy to Open,
in a Short Period of Time

Complex Lock

Hard to Open,
Takes Time to Open

Computer Access

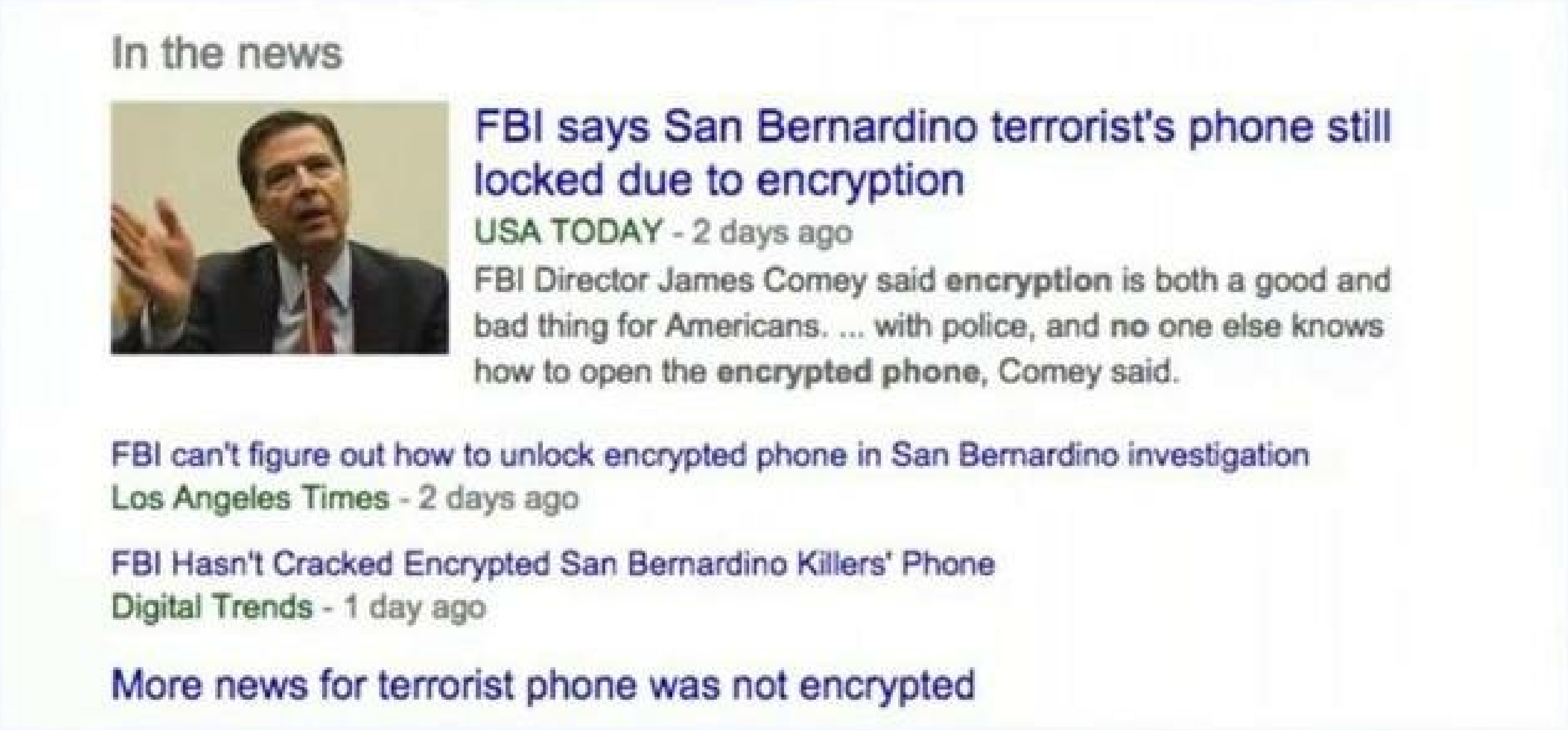
Computer Access Control mechanisms control what operations the user may or may not do by comparing the User ID to an Access Control database.

Access Control systems include:

- File permissions, such as create, read, edit or delete on a file server
- Program permissions, such as the right to execute a program on an application server
- Data rights, such as the right to retrieve or update information in a database

Unlocked Devices

Locked Devices



In the news

FBI says San Bernardino terrorist's phone still locked due to encryption

USA TODAY - 2 days ago

FBI Director James Comey said **encryption** is both a good and bad thing for Americans. ... with police, and **no** one else knows how to open the **encrypted phone**, Comey said.

FBI can't figure out how to unlock encrypted phone in San Bernardino investigation

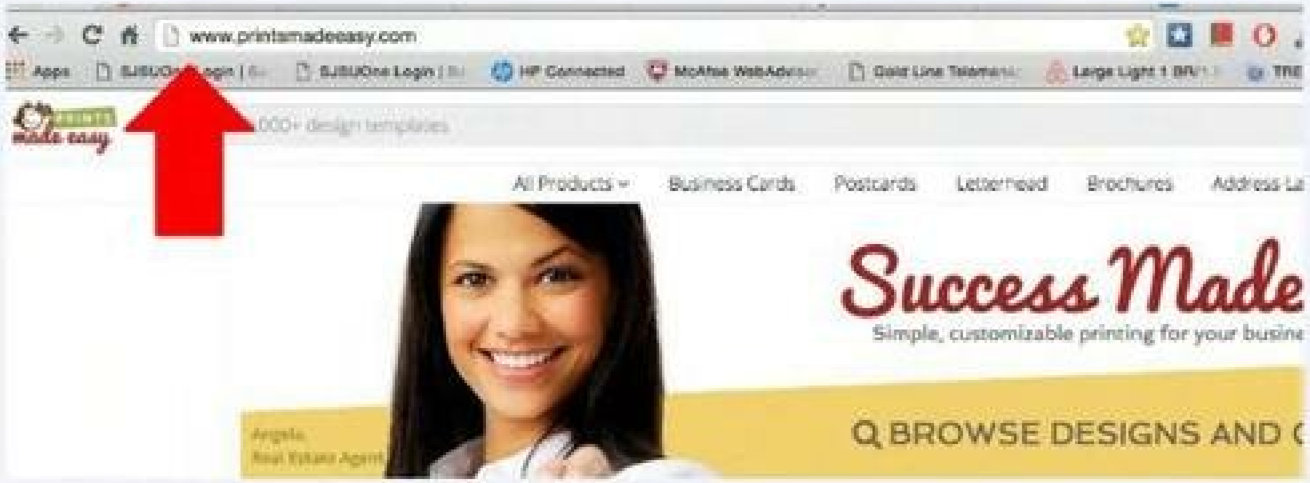
Los Angeles Times - 2 days ago

FBI Hasn't Cracked Encrypted San Bernardino Killers' Phone

Digital Trends - 1 day ago

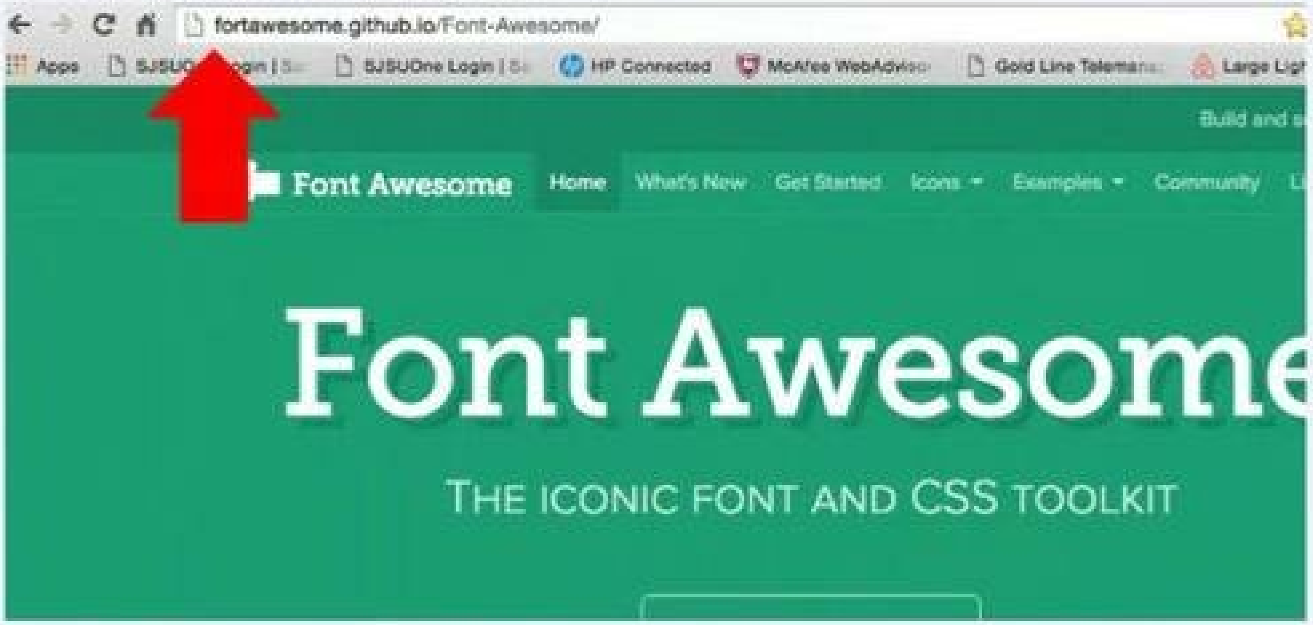
More news for terrorist phone was not encrypted

Unlocked Public Sites



Success Made

Simple, customizable printing for your busine

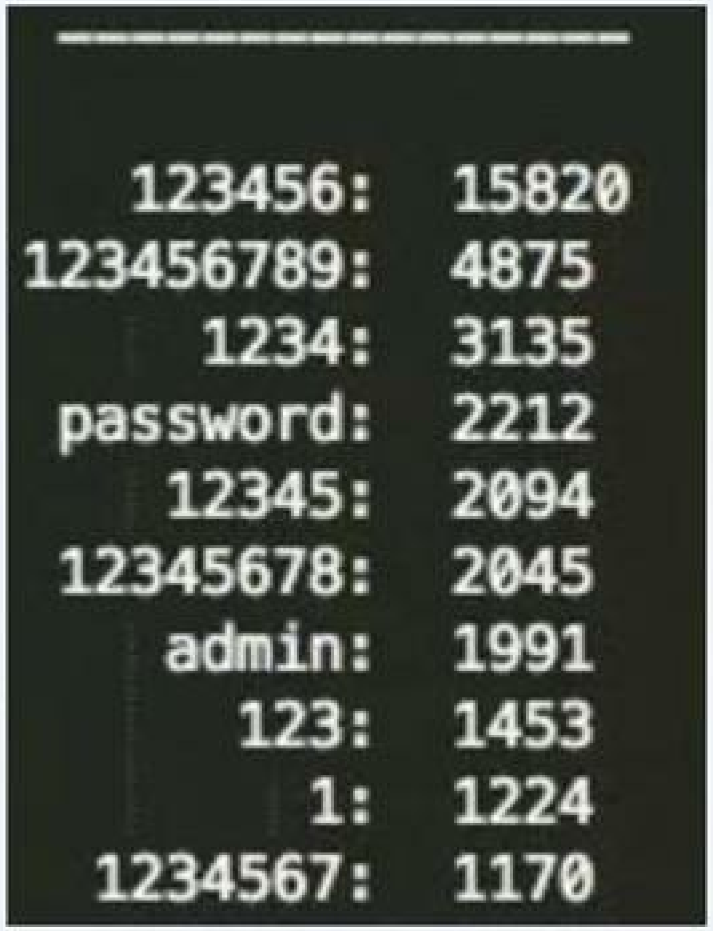


Font Awesome

THE ICONIC FONT AND CSS TOOLKIT

Credentials

The most commonly used passwords, according to the data are as follows:



```
-------------------------

   123456:  15820
123456789:  4875
     1234:  3135
 password:  2212
    12345:  2094
 12345678:  2045
    admin:  1991
      123:  1453
        1:  1224
  1234567:  1170
```

According to Trustwave

http://www.cmswire.com/cms/information-management/millions-of-social-networks-accounts-hacked-023402.php

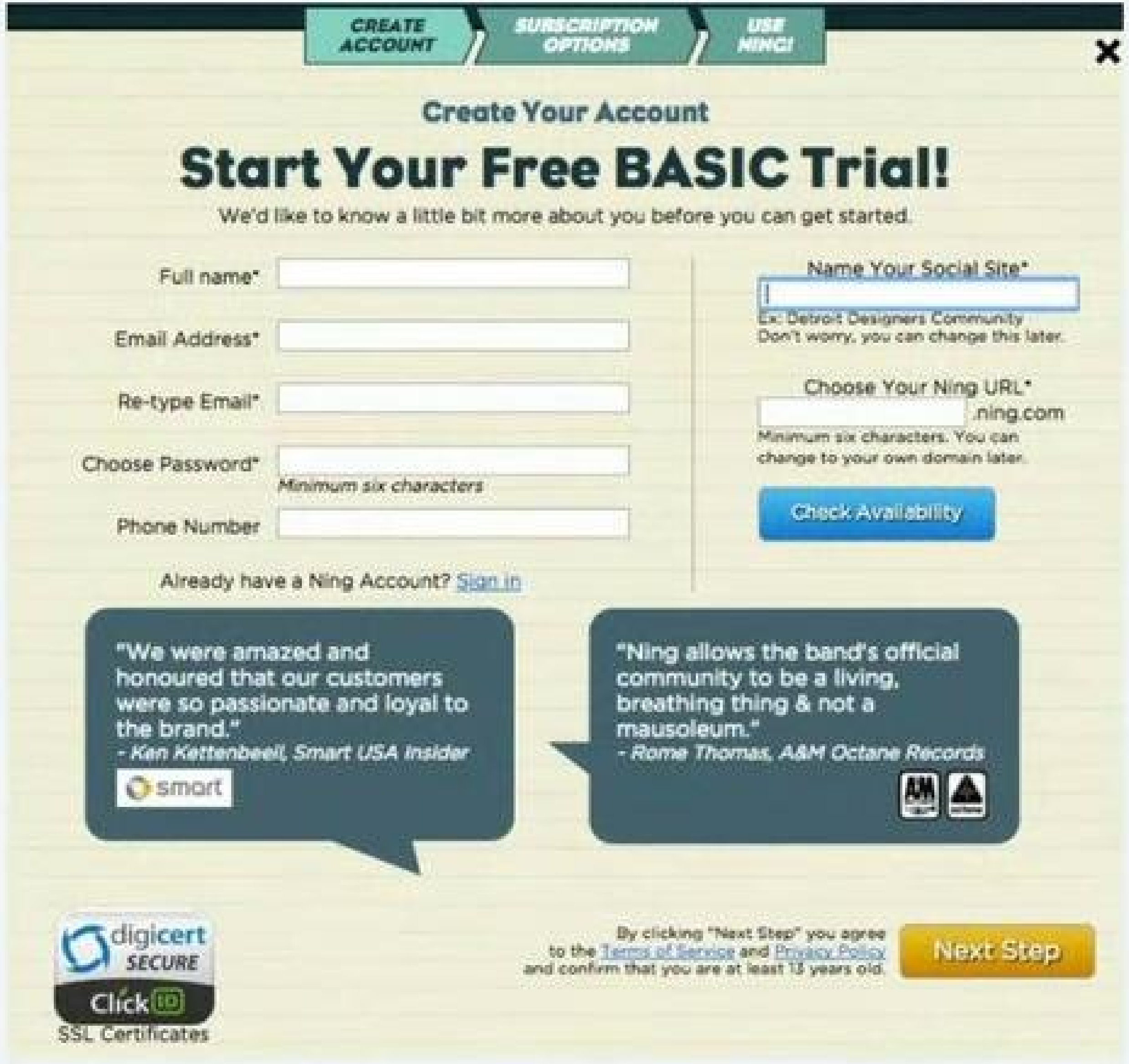
Usability of Passwords

- Password Selection
- Remembrance
- Forgotten Password

Cognitive Passwords

- Knowledge-based authentication
- Regular password recall decrease as time progresses
- Cognitive passwords remains relatively stable over time with recall rates significantly higher than traditional passwords
- Fact-based questions are more likely to be correctly remembered than opinion-based questions
- Cognitive password have an acceptable memorability/guessability ratios

Password and UI Design



Create Your Account

Start Your Free BASIC Trial!

We'd like to know a little bit more about you before you can get started.

Full name*

Email Address*

Re-type Email*

Choose Password*
Minimum six characters

Phone Number

Already have a Ning Account? Sign in

Name Your Social Site*
Ex: Detroit Designers Community
Don't worry, you can change this later.

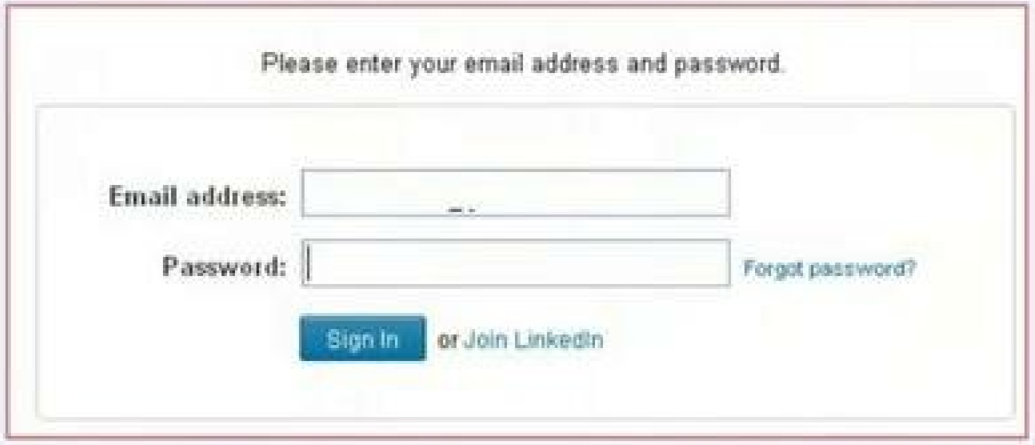
Choose Your Ning URL*
.ning.com
Minimum six characters. You can change to your own domain later.

"We were amazed and honoured that our customers were so passionate and loyal to the brand."
- Ken Kettenbeell, Smart USA Insider

"Ning allows the band's official community to be a living, breathing thing & not a mausoleum."
- Rome Thomas, A&M Octane Records

By clicking "Next Step" you agree to the Terms of Service and Privacy Policy and confirm that you are at least 13 years old.

Passwords

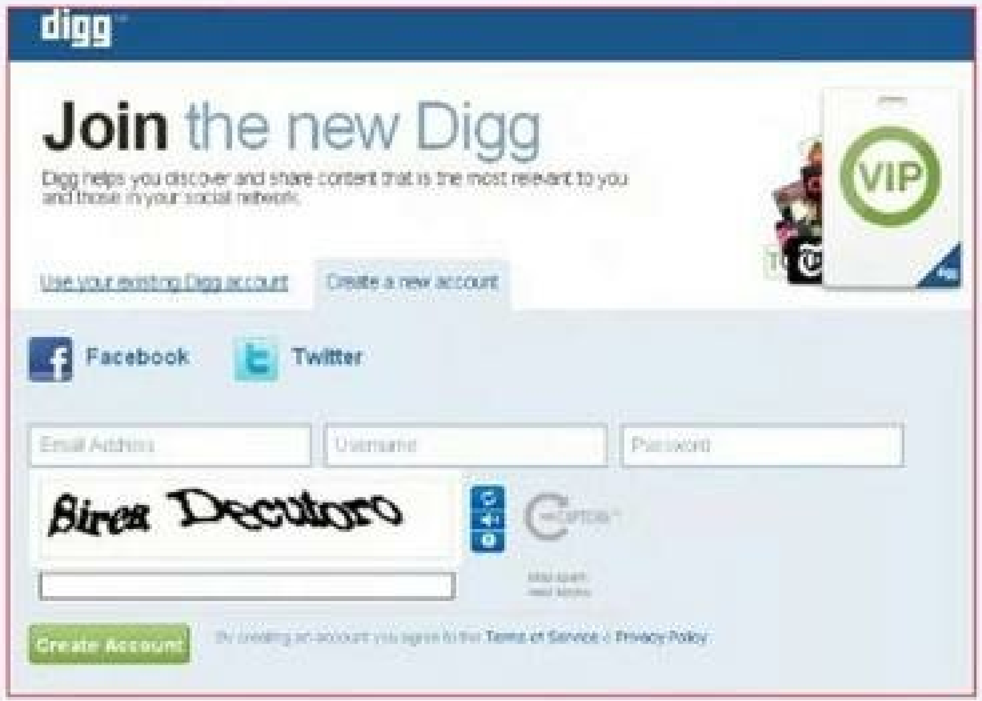


Please enter your email address and password.

Email address:

Password: Forgot password?

Sign In or Join LinkedIn



digg

Join the new Digg

Digg helps you discover and share content that is the most relevant to you and those in your social network.

Use your existing Digg account | Create a new account

Facebook | Twitter

Email Address | Username | Password

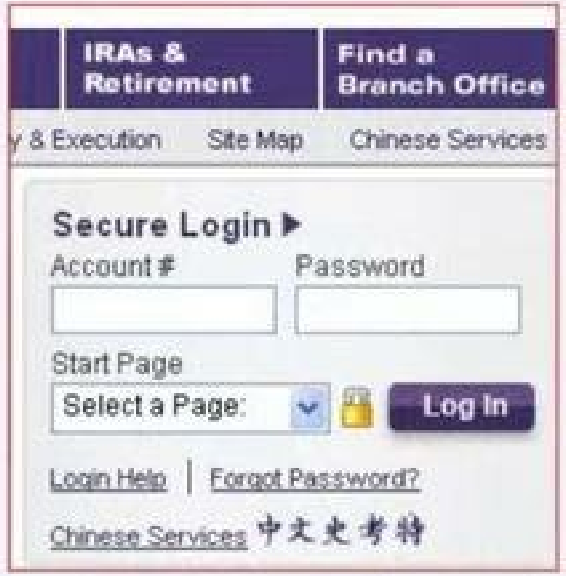
Bires Decutoro

stop spam. read books.

Create Account

By creating an account you agree to the Terms of Service & Privacy Policy

Forgotten User ID or Password



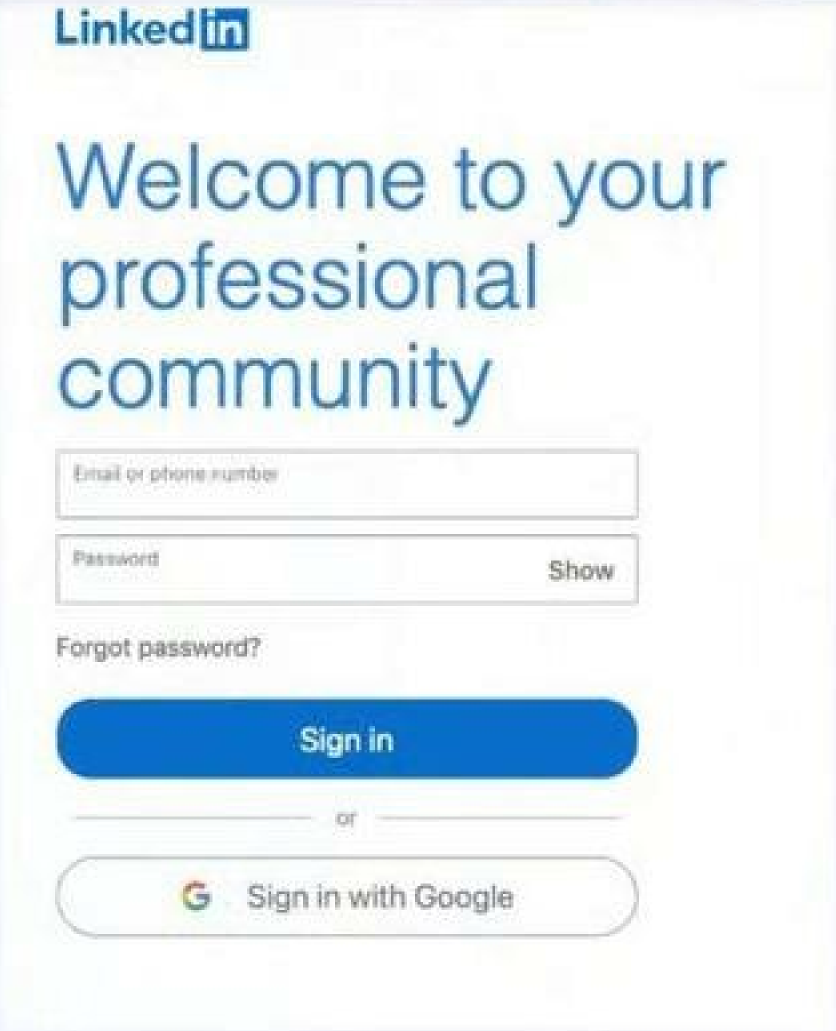
Secure Login ▶

Account #

Password

Start Page

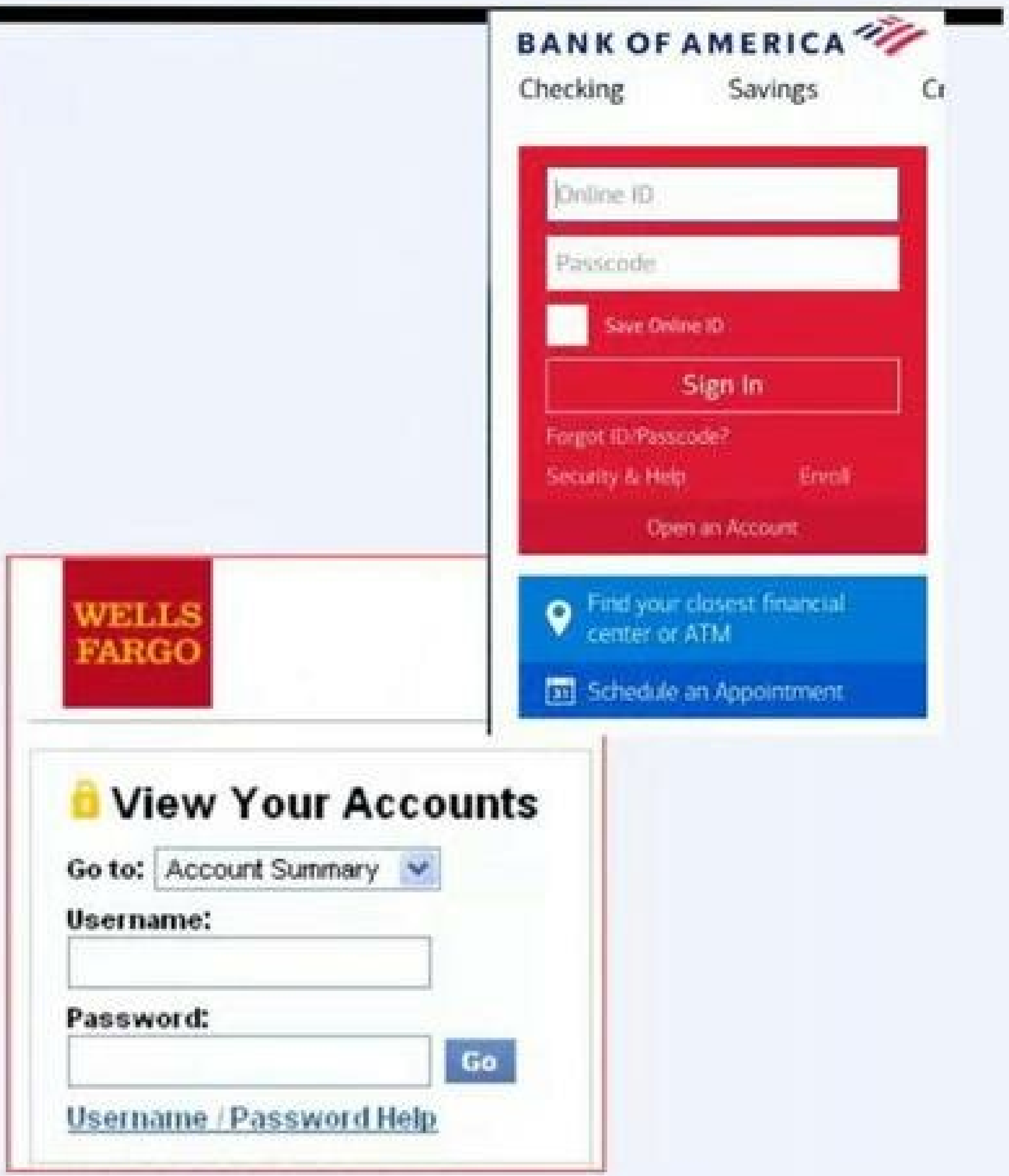
Select a Page:



Welcome to your professional community

Email or phone number

Password



Online ID

Passcode

□ Save Online ID

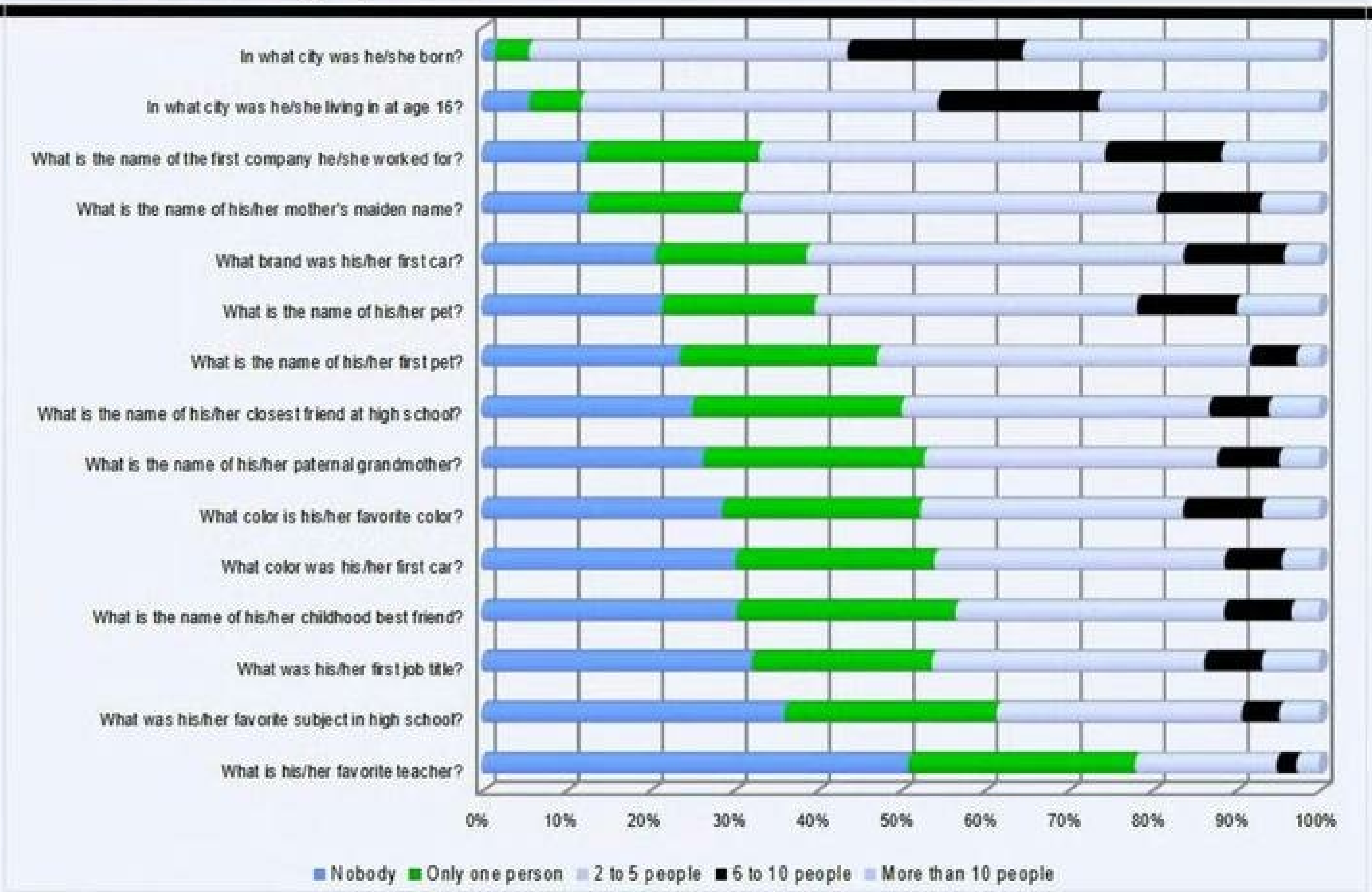
View Your Accounts

Go to: Account Summary

Username:

Password:

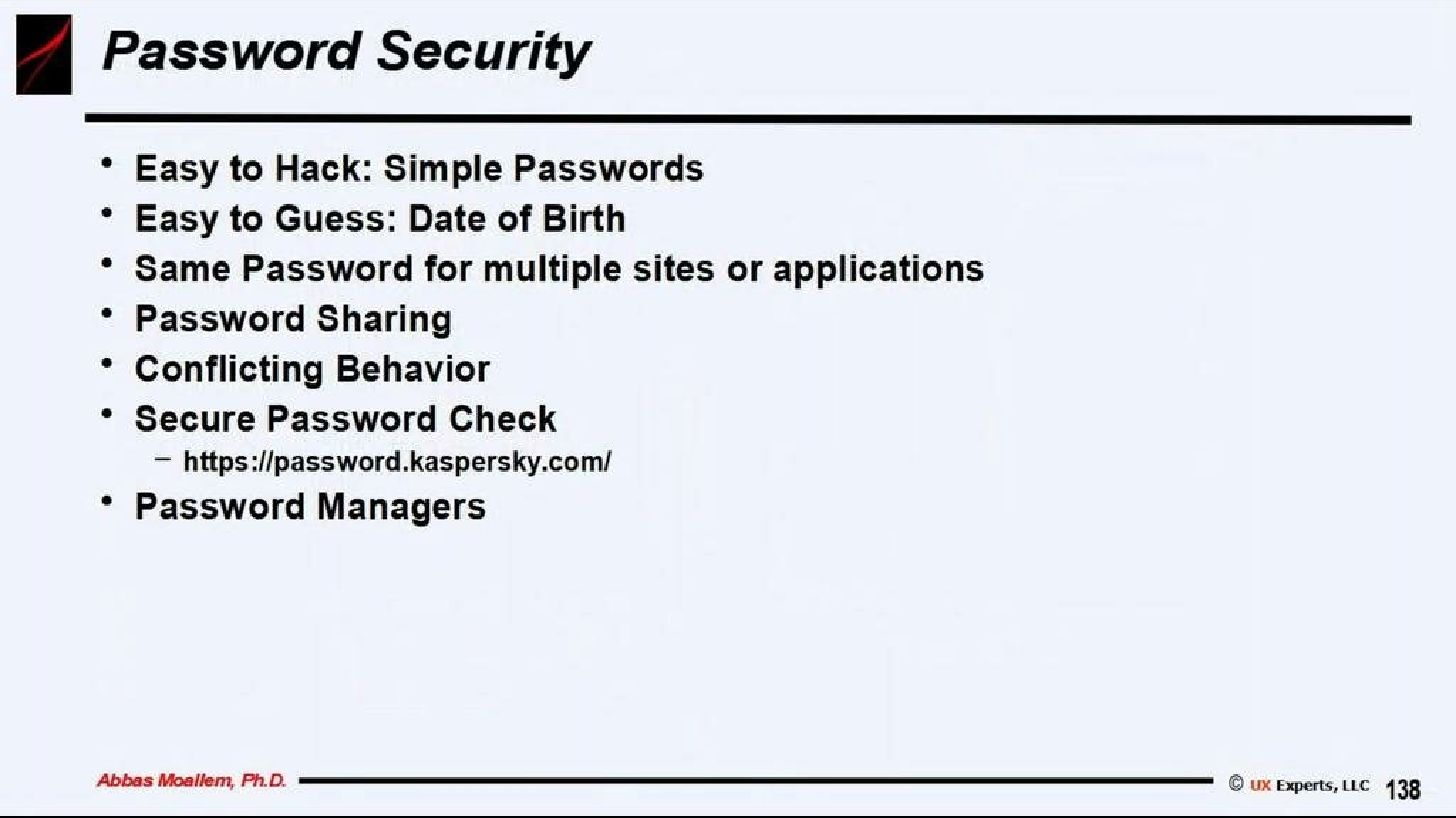
For how many people can you answer the following questions?



Biometrics

Issues with Passwords

Memorability vs. Strength



Password Security

- Easy to Hack: Simple Passwords
- Easy to Guess: Date of Birth
- Same Password for multiple sites or applications
- Password Sharing
- Conflicting Behavior
- Secure Password Check
  - https://password.kaspersky.com/
- Password Managers

Password Mangers

****** LastPass •••|******
1Password
dashlane
keeper
RoboForm
onelogin

Web Browser Password Saving

Advantages

- No effort of having to devise a new password
- No longer need to type it in;
- Not required to remember it

Disadvantages

- Never know what the password
- only good for the devices that only accessible by the original user.
- Some devices might be used by a wider group

Stepping Beyond Passwords

- PIN
  - as commonly used for scenarios such as accessing mobile devices and card payment transactions
- Challenge questions
- Graphical/image-based secrets

Privacy

- “Privacy is the claim of individuals, groups or institutions to determine for themselves when, how, and to what extent information about them is communicated to others”
- Privacy is not an absolute

Privacy

- “to be free from physical invasion of one’s home or person,”
- “the right to make certain personal and intimate decisions free from government interference,”
- “the right to prevent commercial publicity of one’s own name and image,”
- and “the control of information concerning an individual’s person”

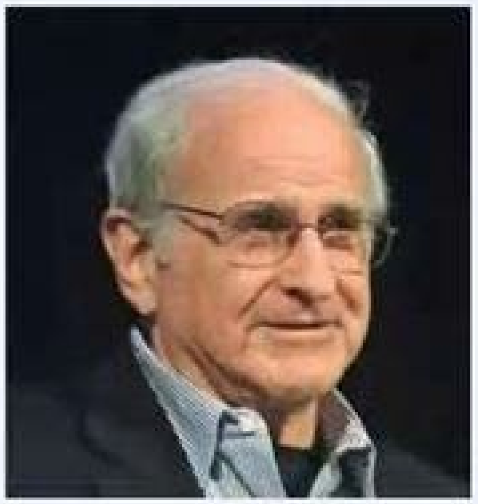
According to Murphy

Data Protection and Personal Privacy

Alan Furman Westin

- Alan Furman Westin (October 11, 1929 – February 18, 2013)
- Professor of Public Law & Government Emeritus, Columbia University,

Privacy and Freedom.
The title of his book
published in1967
helped define the privacy
field

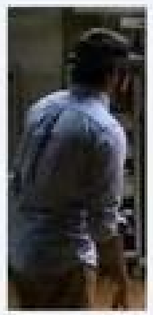


Four States of Privacy

Solitude

Intimacy

Anonymity



Reserve

Alan Westin. 1967. *Privacy and Freedom*. New York: Atheneum.

Privacy & Technology

- Effects of technology on privacy.
  - Level of privacy a system effectively offers
  - Overall return on investment is. “usability” Vs. Security,”
- An entire system may be ruined by a single poorly implemented component that leaks personal information, or a poor interface that users cannot understand.

Technology Offers New Options

- Invisible Surveillance
  - What is being collected
  - How will it be used
  - Consent to collect
- Computer Matching
  - Collecting information from disparate sources and matching it by some marker to identify the single source of the data
- Computer Profiling
  - Using information to predict characteristics behaviors of a group or an individual
- Computer Tracking
  - Compiling location and travel information from GPS, Cell Phones, Credit Cards, Fast lane tolls, satellite, etc.

Privacy Preferences

- **Fundamentalists:15%–25%**
  - **are those individuals who are most concerned about privacy, believe that personal information is not handled securely and responsibly by commercial organizations, and consider existing legislative protection to be insufficient.**
- **Unconcerned individuals** 15%–25%
  - **are not worried about the handling of their personal data and believe that sufficient safeguards are in place.**
- **Pragmatists, 4**0%–60%
  - **are the majority of the sampled population, lie somewhere in the middle. They acknowledge risks to personal information but believe that sufficient safeguards are in place.**

surveys was conducted by Privacy &
American Business [238], a research consultancy founded by Alan Westin

Internet Privacy

- Internet Technology was not, at the outset, concerned with technologies in support of privacy (or many other social processes) and did not develop technologies to support it/them Examples:
  - Fairness
  - Copyright
  - Censorship
  - Trespass
  - Libel
  - Intellectual Property

Privacy Preferences

Developing — Developing more effective and efficient ways for end-users to manage their privacy.

Gaining — Gaining a deeper understanding of people's attitudes and behaviors toward privacy.

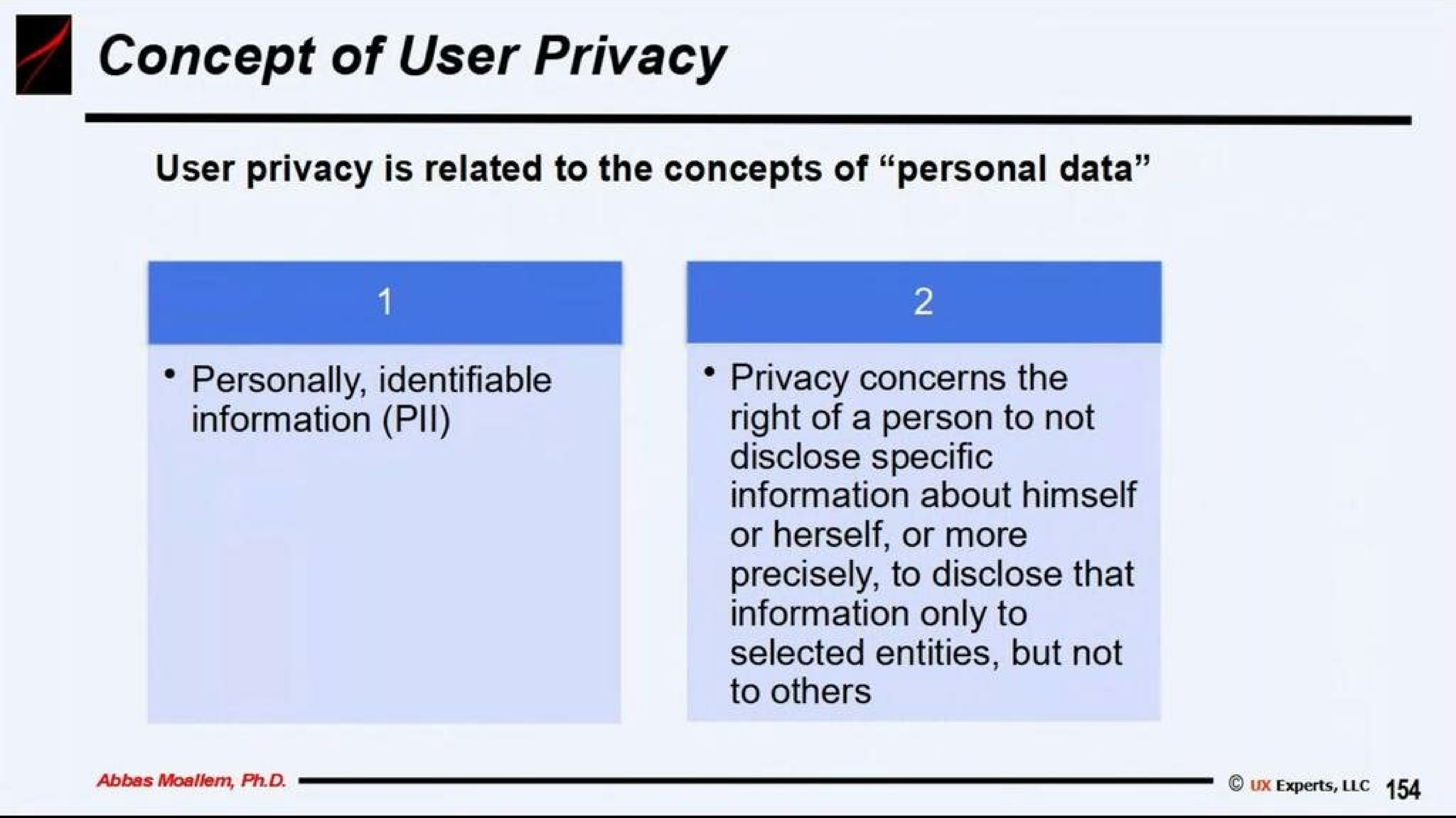
Developing — Developing a "Privacy Toolbox."

Improving — Improving organizational management of personal data.

Reconciling — Reconciling privacy research with technological adoption models.

Fair Information Practice Principles

- Consumers should be given notice of an entity's information practices before any personal information is collected from them.
- Without notice, a consumer cannot make an informed decision as to whether and to what extent to disclose personal information.
- Choice/Consent,
- access/participation,
- Enforcement/Redress
- Entity's policies, and users rights



Concept of User Privacy

User privacy is related to the concepts of "personal data"

1

- Personally, identifiable information (PII)

2

- Privacy concerns the right of a person to not disclose specific information about himself or herself, or more precisely, to disclose that information only to selected entities, but not to others

Concept of User Privacy

Person's medical history

A breach of confidentiality

user's anonymity

unobservability

unlinkability

- **Anonymity**
  - is defined as the state of not being identifiable; unobservability is defined as a state of being undistinguishable; and unlinkability is defined as the impossibility of the correlation of two or more actions/items/pieces of information related to a user.
- **Data confidentiality is usually related to strict secrets, e.g., a bank account password.**

Privacy Concerns

- The will of persons to control the disclosure of information about them.
- The awareness of threats to privacy performed by an agency or entity via intrusion or eavesdropping is nowadays high and constantly raised by many organizations collecting private data, e.g., financial institutions, telecommunication operators, and e-services providers.
- The problem of privacy breach by trust abuse is different from common security issues and—unfortunately—is not fairly highlighted by organizations collecting private data.

The reason why a business is interested in violations of the privacy of its clients

Increase

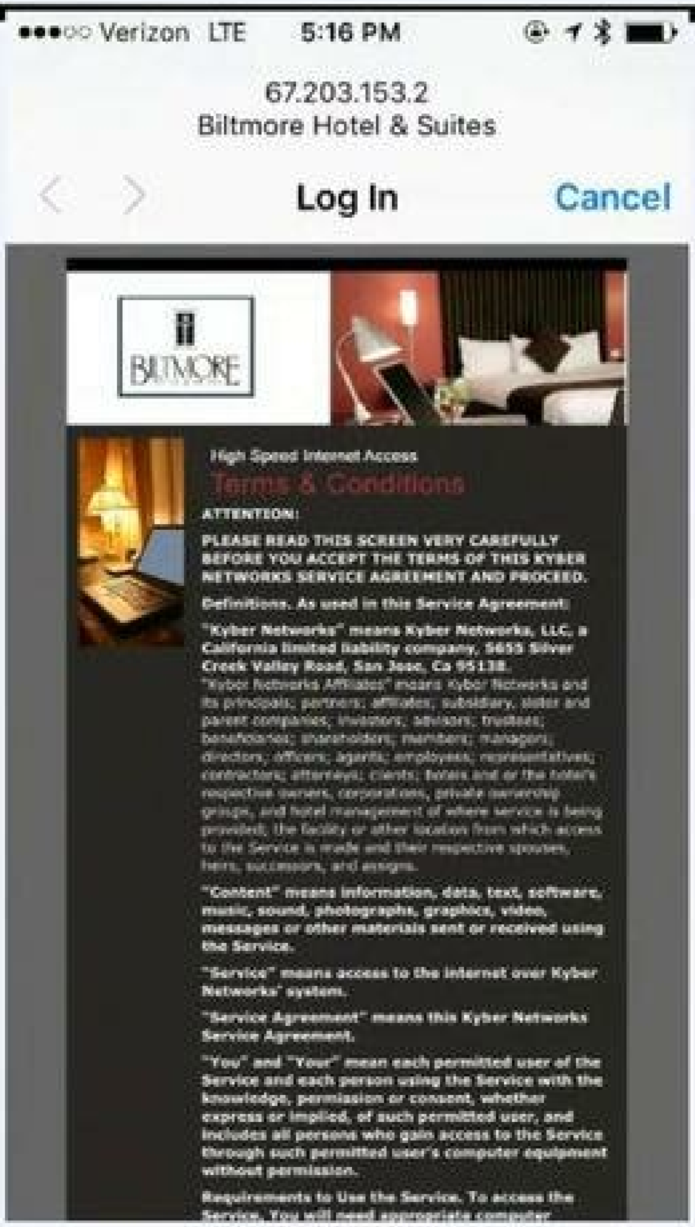
increase profits

To reduce the business risk

Reduce

End User Privacy Awareness

Terms and Conditions



High Speed Internet Access

Terms & Conditions

ATTENTION:

PLEASE READ THIS SCREEN VERY CAREFULLY BEFORE YOU ACCEPT THE TERMS OF THIS KYBER NETWORKS SERVICE AGREEMENT AND PROCEED.

Definitions. As used in this Service Agreement:

"Kyber Networks" means Kyber Networks, LLC, a California limited liability company, 5655 Silver Creek Valley Road, San Jose, Ca 95138.

"Kyber Networks Affiliates" means Kyber Networks and its principals; partners; affiliates; subsidiary, sister and parent companies; investors; advisors; trustees; beneficiaries; shareholders; members; managers; directors; officers; agents; employees; representatives; contractors; attorneys; clients; hotels and or the hotel's respective owners, corporations, private ownership groups, and hotel management of where service is being provided, the facility or other location from which access to the Service is made and their respective spouses, heirs, successors, and assigns.

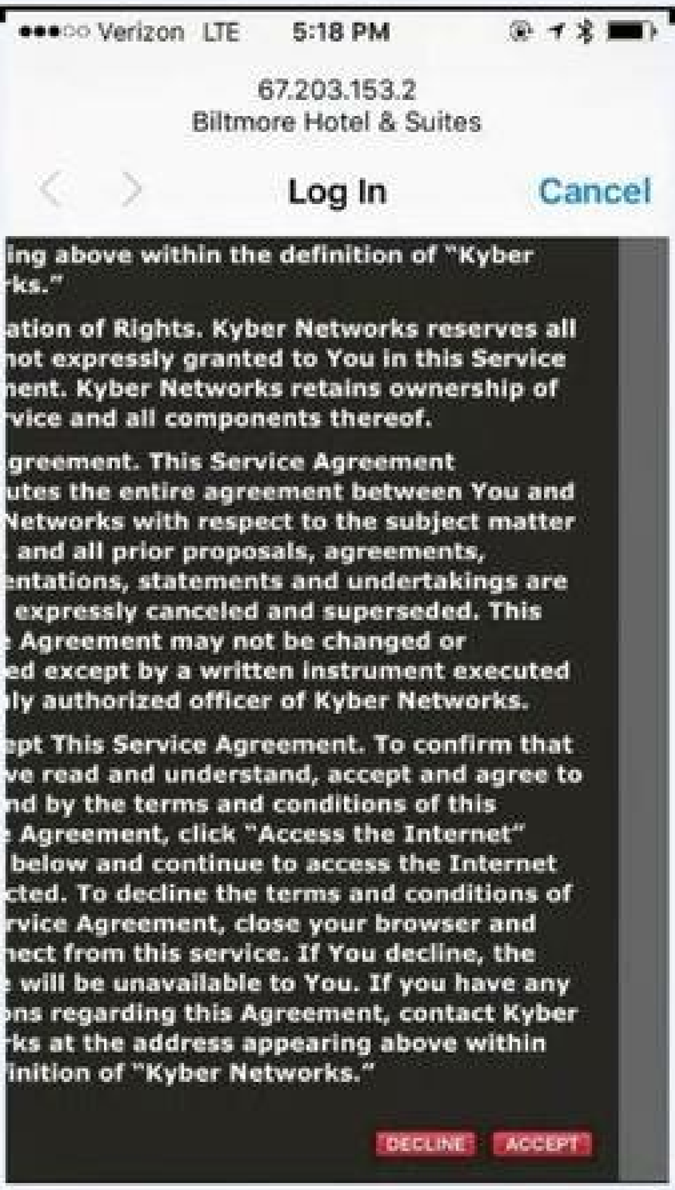
"Content" means information, data, text, software, music, sound, photographs, graphics, video, messages or other materials sent or received using the Service.

"Service" means access to the internet over Kyber Networks' system.

"Service Agreement" means this Kyber Networks Service Agreement.

"You" and "Your" mean each permitted user of the Service and each person using the Service with the knowledge, permission or consent, whether express or implied, of such permitted user, and includes all persons who gain access to the Service through such permitted user's computer equipment without permission.

Requirements to Use the Service. To access the Service, You will need appropriate computer



ing above within the definition of "Kyber rks."

ation of Rights. Kyber Networks reserves all not expressly granted to You in this Service nent. Kyber Networks retains ownership of rvice and all components thereof.

greement. This Service Agreement utes the entire agreement between You and Networks with respect to the subject matter and all prior proposals, agreements, entations, statements and undertakings are expressly canceled and superseded. This Agreement may not be changed or ed except by a written instrument executed ly authorized officer of Kyber Networks.

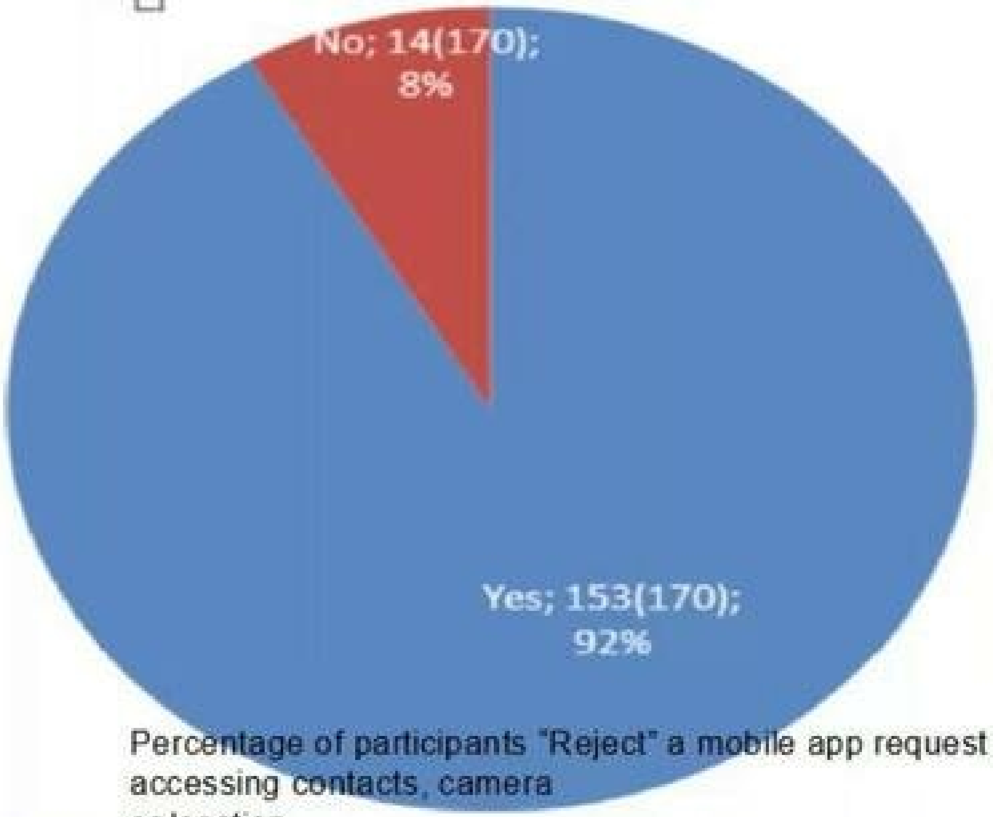
ept This Service Agreement. To confirm that ve read and understand, accept and agree to nd by the terms and conditions of this Agreement, click "Access the Internet" below and continue to access the Internet cted. To decline the terms and conditions of rvice Agreement, close your browser and nect from this service. If You decline, the will be unavailable to You. If you have any ons regarding this Agreement, contact Kyber rks at the address appearing above within finition of "Kyber Networks."

Internet Cookies

- Session cookie
- Persistent cookie
- Secure cookie
- Http-only cookie
- Same-site cookie
- Third-party cookie
- Supercookie
- Zombie cookie

Location Services

Have you ever rejected a mobile app request for accessing your contacts, camera or location?



Percentage of participants "Reject" a mobile app request for accessing contacts, camera
or location

Search

- Google saves all your searches
  - My Activity page
- Google saves every voice search
- Google tracks and records your location
- Control advertising data
  - ad settings
- Delete your Google account
  - Google's Dashboard

Privacy & Tradeoff

- The developer of a retail web site may have security or business requirements that compete with the end-user privacy requirements,
- Thus creating a tension that must be resolved through tradeoffs.
- Because HCI practitioners possess an holistic view of the interaction of the user with the technology, they are ideally positioned to optimally work through and solve these tradeoffs.

Privacy

- People are not always rational studies have demonstrated
  - a difference between privacy preferences and actual behavior
    - Many people are also unable to accurately evaluate low probability but high impact risks, especially related to events that may be far removed from the time and place of the initial cause.

Law and Privacy

- Computer Matching and Privacy Protection (1988)
  - Required access requests and limited data matching process
- USA Patriot Act (2001)
  - Considerably expanded ability to collect information on behavior to ascertain if it differs from a “normal pattern”
    - Banking
    - Communications
    - Travel
    - Association

HIPAA

- The Health Insurance Portability and Accountability Act of 1996 (HIPAA) Privacy and Security Rules
- The HIPAA Privacy Rule provides federal protections for personal health information held by covered entities and gives patients an array of rights with respect to that information. At the same time, the Privacy Rule is balanced
- so that it permits the disclosure of personal health information needed for patient care and other important purposes

California Consumer Privacy Act (CCPA)

The CCPA grants new rights to California consumers

- The right to know what personal information is collected, used, shared or sold, both as to the categories and specific pieces of personal information;
- The right to delete personal information held by businesses and by extension, a business's service provider;
- The right to opt-out of sale of personal information. Consumers are able to direct a business that sells personal information to stop selling that information. Children under the age of 16 must provide opt in consent, with a parent or guardian consenting for children under 13.
- The right to non-discrimination in terms of price or service when a consumer exercises a privacy right under CCPA.

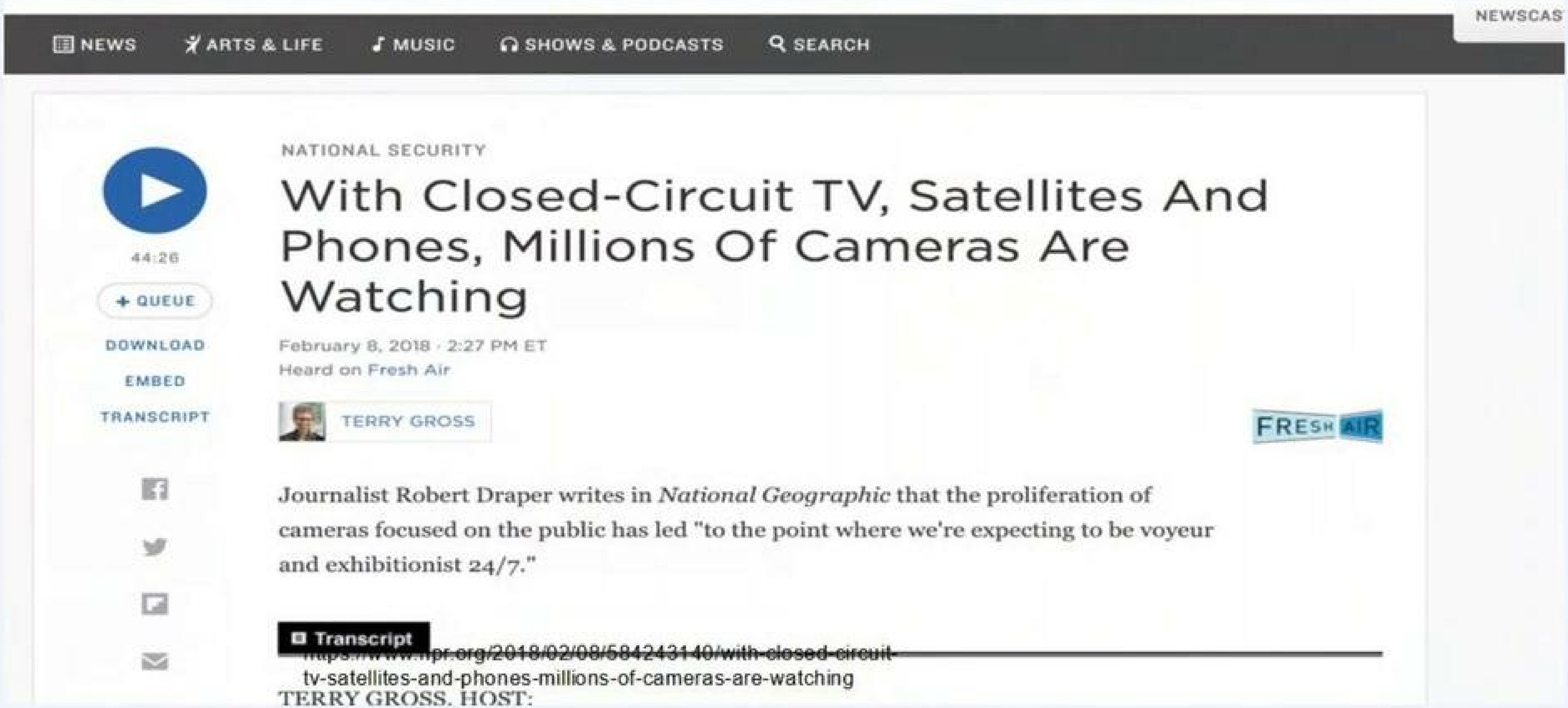
Surveillance

Privacy concerns the right of a person to not disclose specific information about himself or herself, or more precisely, to disclose that information only to selected entities, but not to others

Privacy and Surveillance

- Physical Surveillance
- Psychological Surveillance
- Data Surveillance
- Self Disclosure
  - Self-disclosure is a process of communication by which one person reveals information about themself to another.

Press



NATIONAL SECURITY

With Closed-Circuit TV, Satellites And Phones, Millions Of Cameras Are Watching

February 8, 2018 · 2:27 PM ET
Heard on Fresh Air

TERRY GROSS

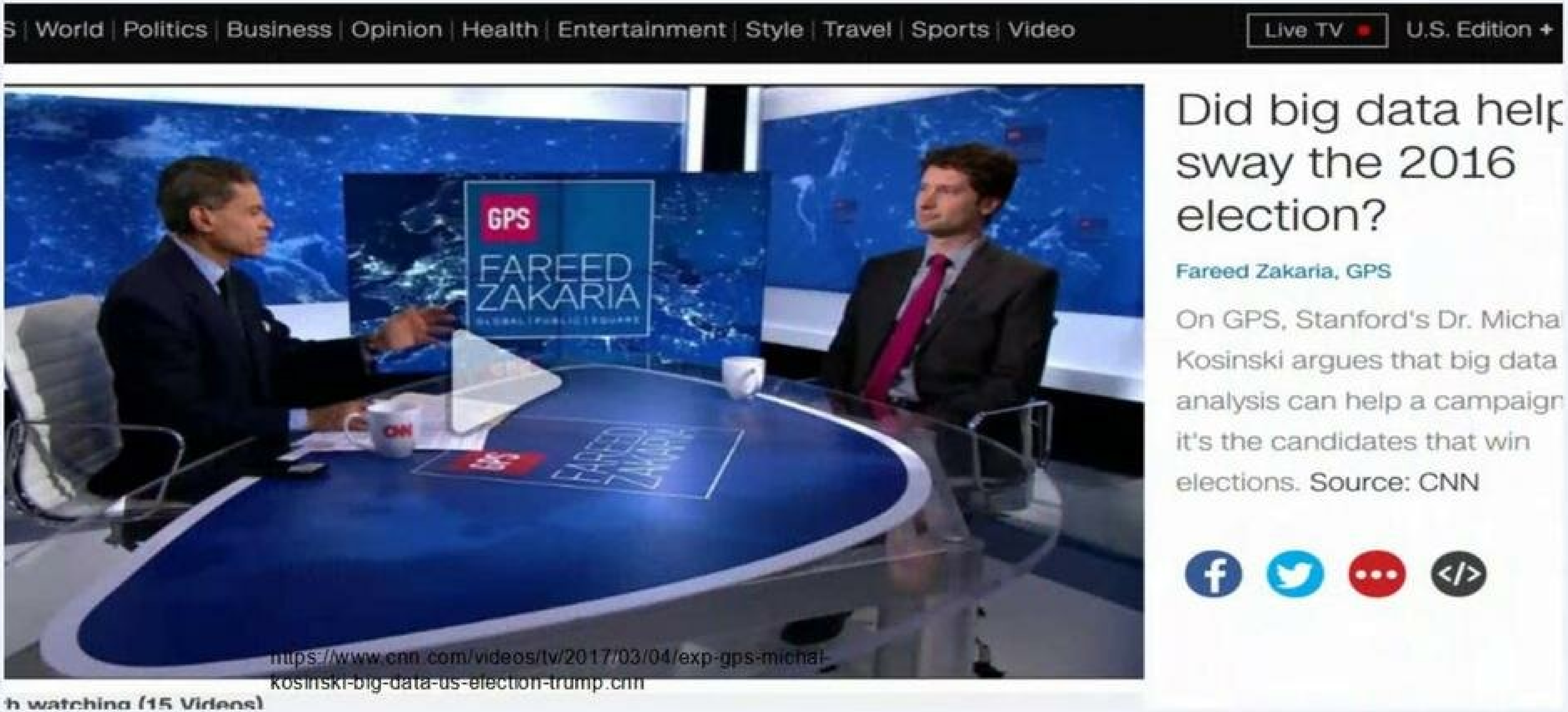
Journalist Robert Draper writes in *National Geographic* that the proliferation of cameras focused on the public has led "to the point where we're expecting to be voyeur and exhibitionist 24/7."

Transcript

https://www.npr.org/2018/02/08/584243140/with-closed-circuit-tv-satellites-and-phones-millions-of-cameras-are-watching

TERRY GROSS, HOST:

Case


S | World | Politics | Business | Opinion | Health | Entertainment | Style | Travel | Sports | Video
Live TV ●
U.S. Edition +
GPS
FAREED ZAKARIA
GLOBAL PUBLIC SQUARE
CNN
h watching (15 Videos)

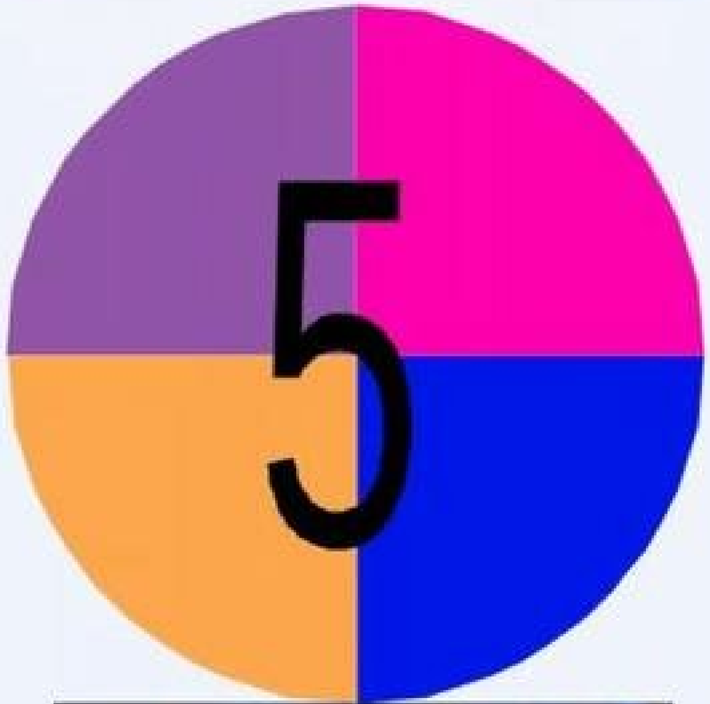
Did big data helf sway the 2016 election?

Fareed Zakaria, GPS

On GPS, Stanford's Dr. Micha Kosinski argues that big data analysis can help a campaigr it's the candidates that win elections. Source: CNN

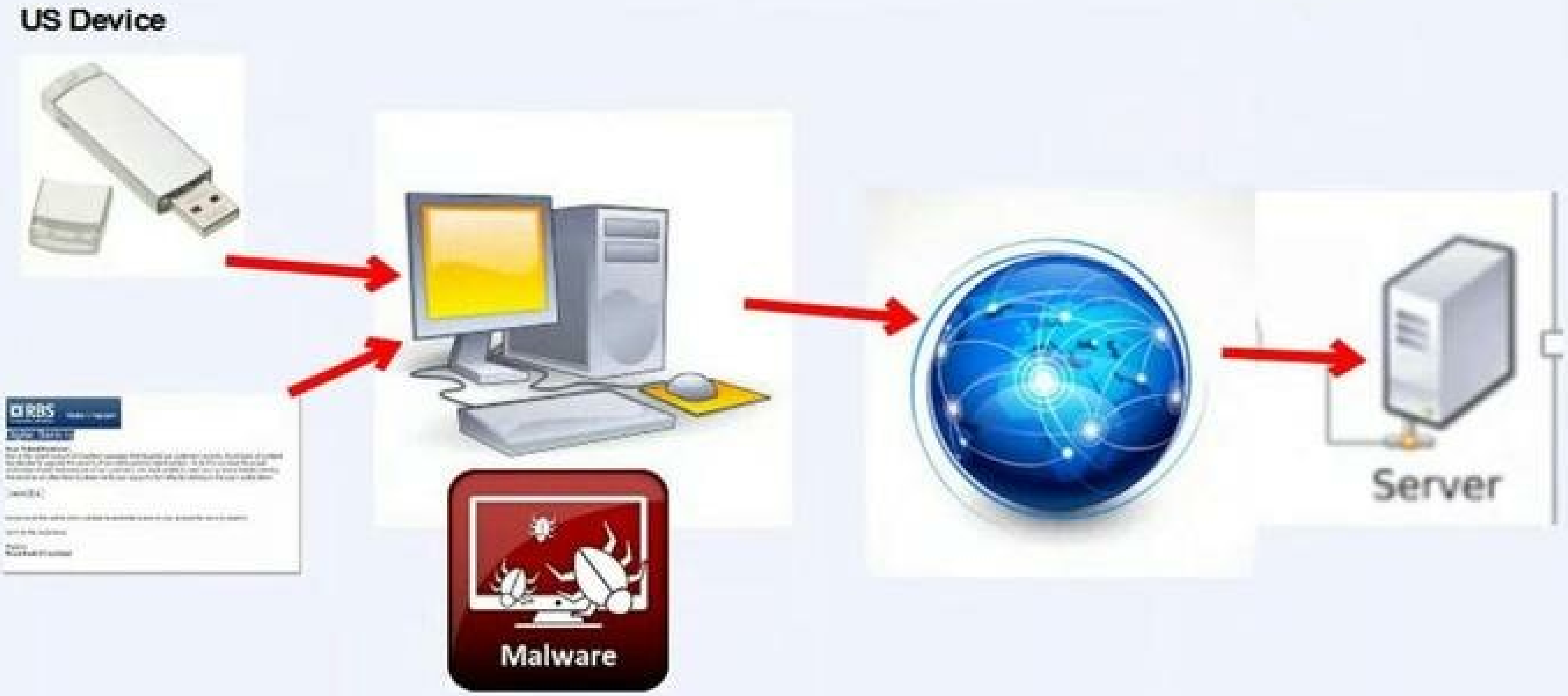
https://www.cnn.com/videos/tv/2017/03/04/exp-gps-michal-kosinski-big-data-us-election-trump.cnn

Ransomware

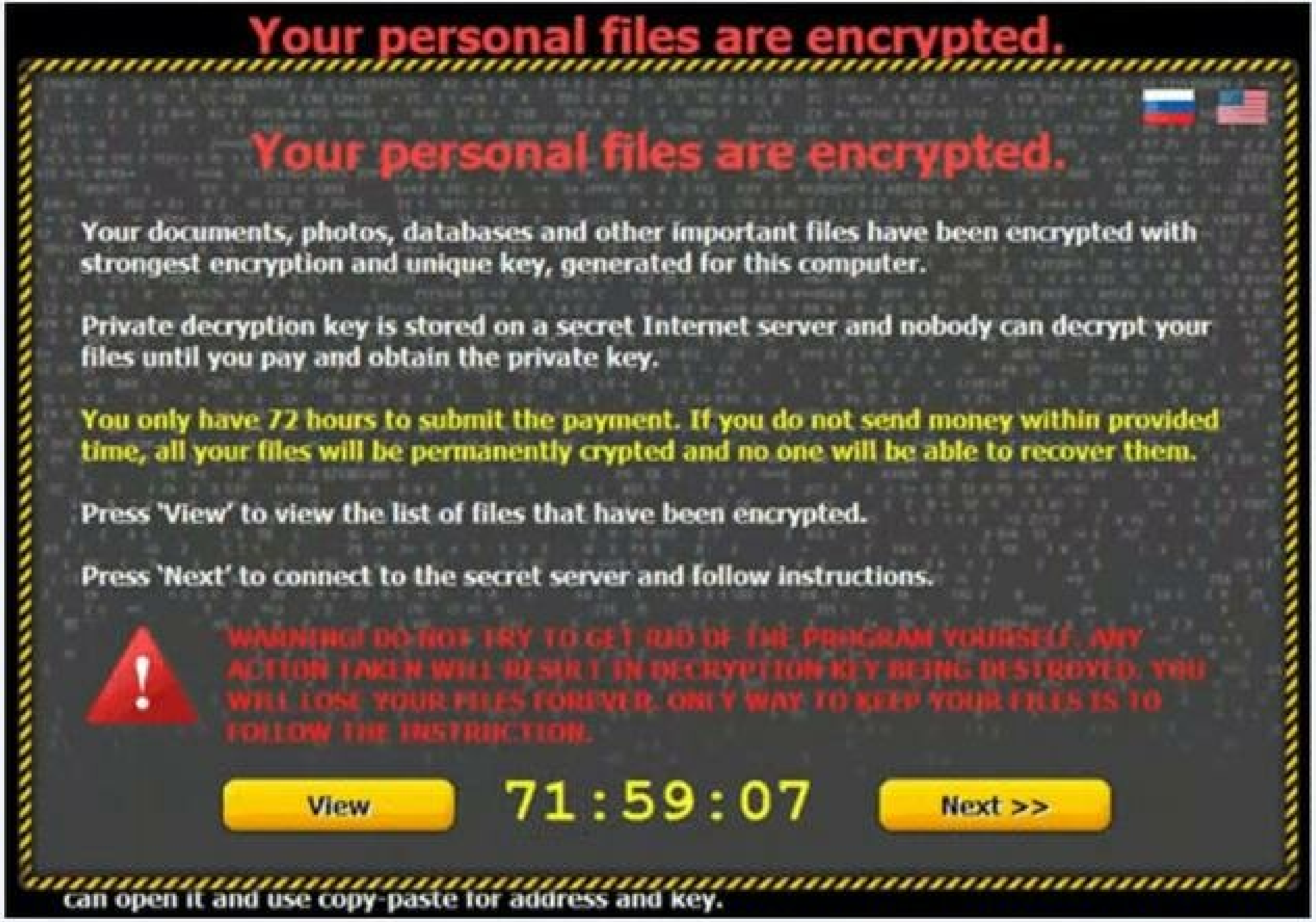


- Ransomware is a type of malicious software from that threatens to publish the victim's data or perpetually block access to it unless a ransom is paid.
- Ransomware is an emerging form of malware that locks the user out of their files or their device, then demands an anonymous online payment to restore access.

How Does Ransomware Work?



Imagine you turn on your computer and you get this message:



Your personal files are encrypted.

Your personal files are encrypted.

Your documents, photos, databases and other important files have been encrypted with strongest encryption and unique key, generated for this computer.

Private decryption key is stored on a secret Internet server and nobody can decrypt your files until you pay and obtain the private key.

You only have 72 hours to submit the payment. If you do not send money within provided time, all your files will be permanently crypted and no one will be able to recover them.

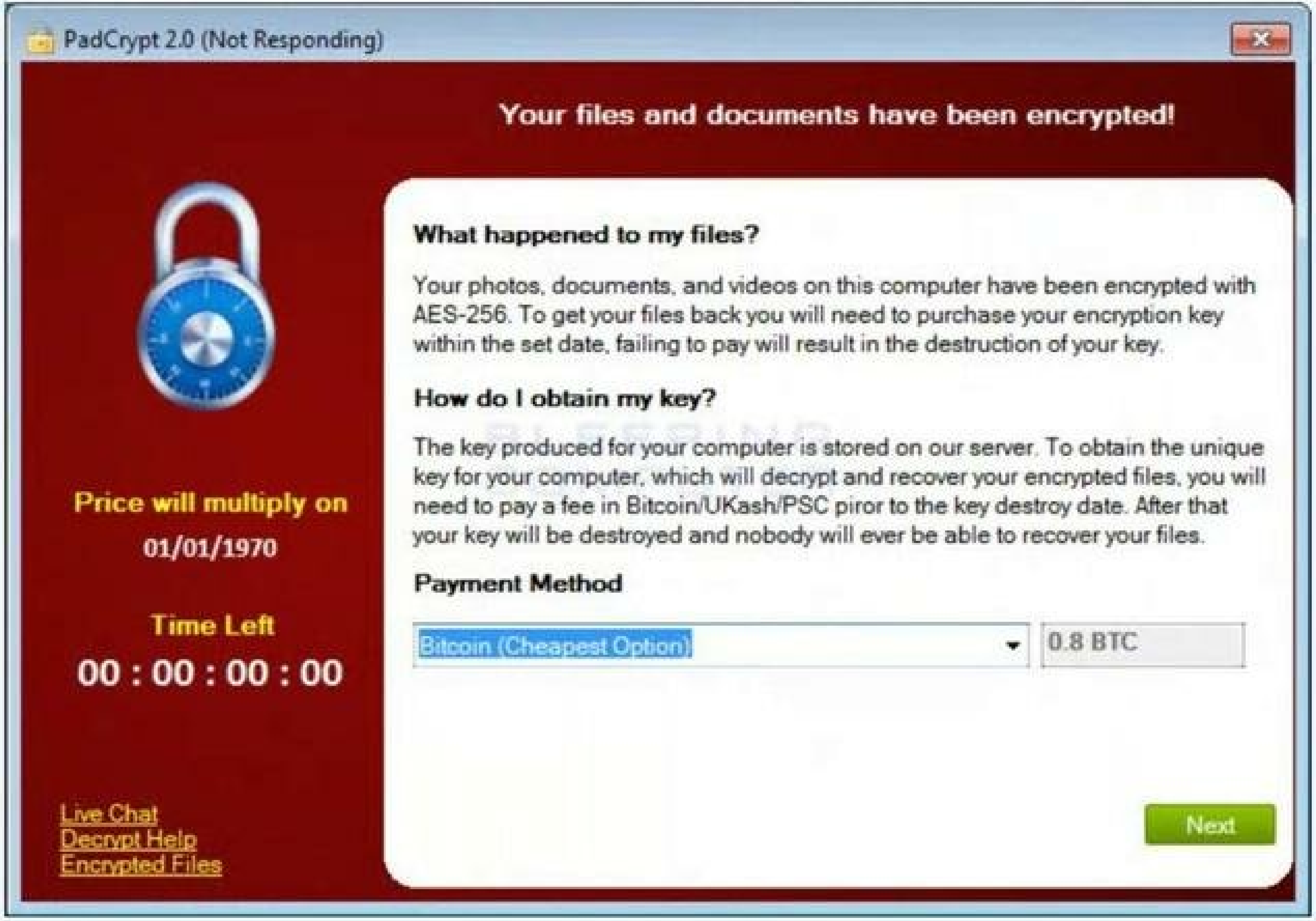
Press 'View' to view the list of files that have been encrypted.

Press 'Next' to connect to the secret server and follow instructions.

WARNING! DO NOT TRY TO GET RID OF THE PROGRAM YOURSELF. ANY ACTION TAKEN WILL RESULT IN DECRYPTION KEY BEING DESTROYED. YOU WILL LOSE YOUR FILES FOREVER. ONLY WAY TO KEEP YOUR FILES IS TO FOLLOW THE INSTRUCTION.

can open it and use copy-paste for address and key.

Or this…



Your files and documents have been encrypted!

What happened to my files?

Your photos, documents, and videos on this computer have been encrypted with AES-256. To get your files back you will need to purchase your encryption key within the set date, failing to pay will result in the destruction of your key.

How do I obtain my key?

The key produced for your computer is stored on our server. To obtain the unique key for your computer, which will decrypt and recover your encrypted files, you will need to pay a fee in Bitcoin/UKash/PSC piror to the key destroy date. After that your key will be destroyed and nobody will ever be able to recover your files.

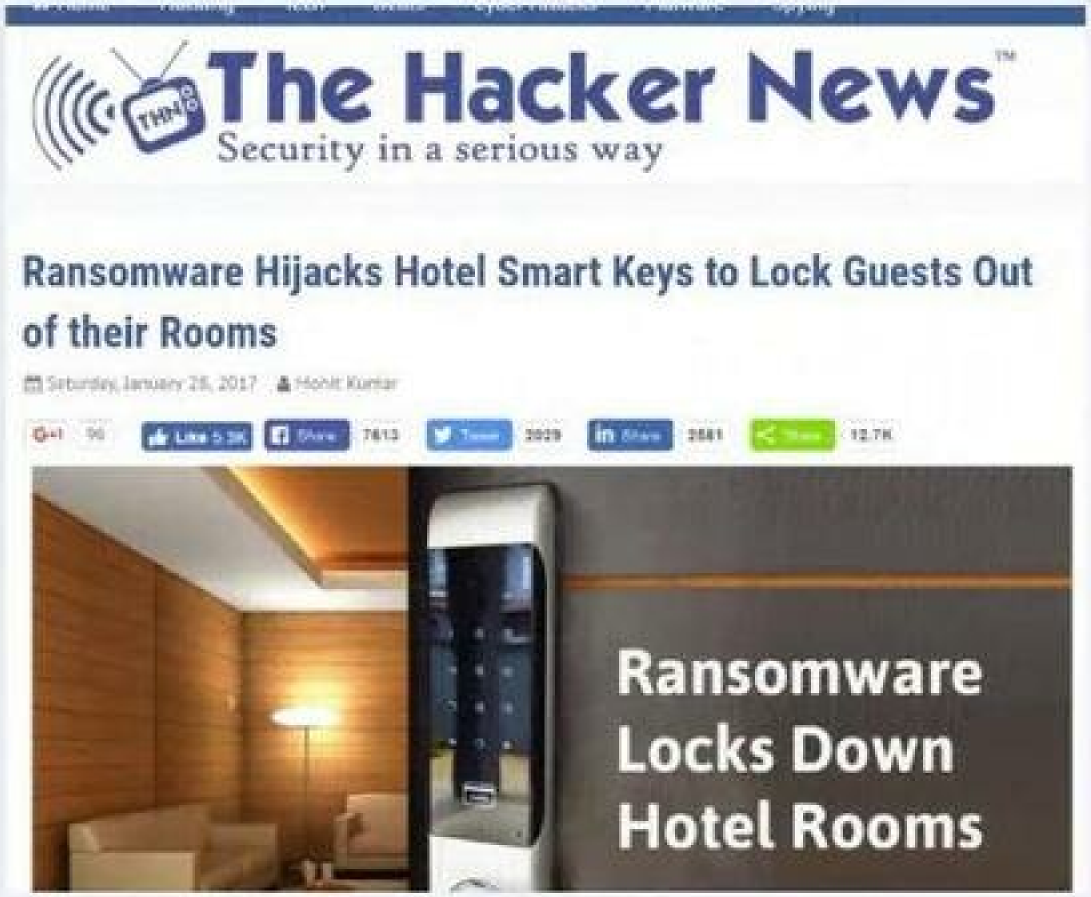
Payment Method

Bitcoin (Cheapest Option) 0.8 BTC

Price will multiply on
01/01/1970

Time Left
00 : 00 : 00 : 00

Attacks



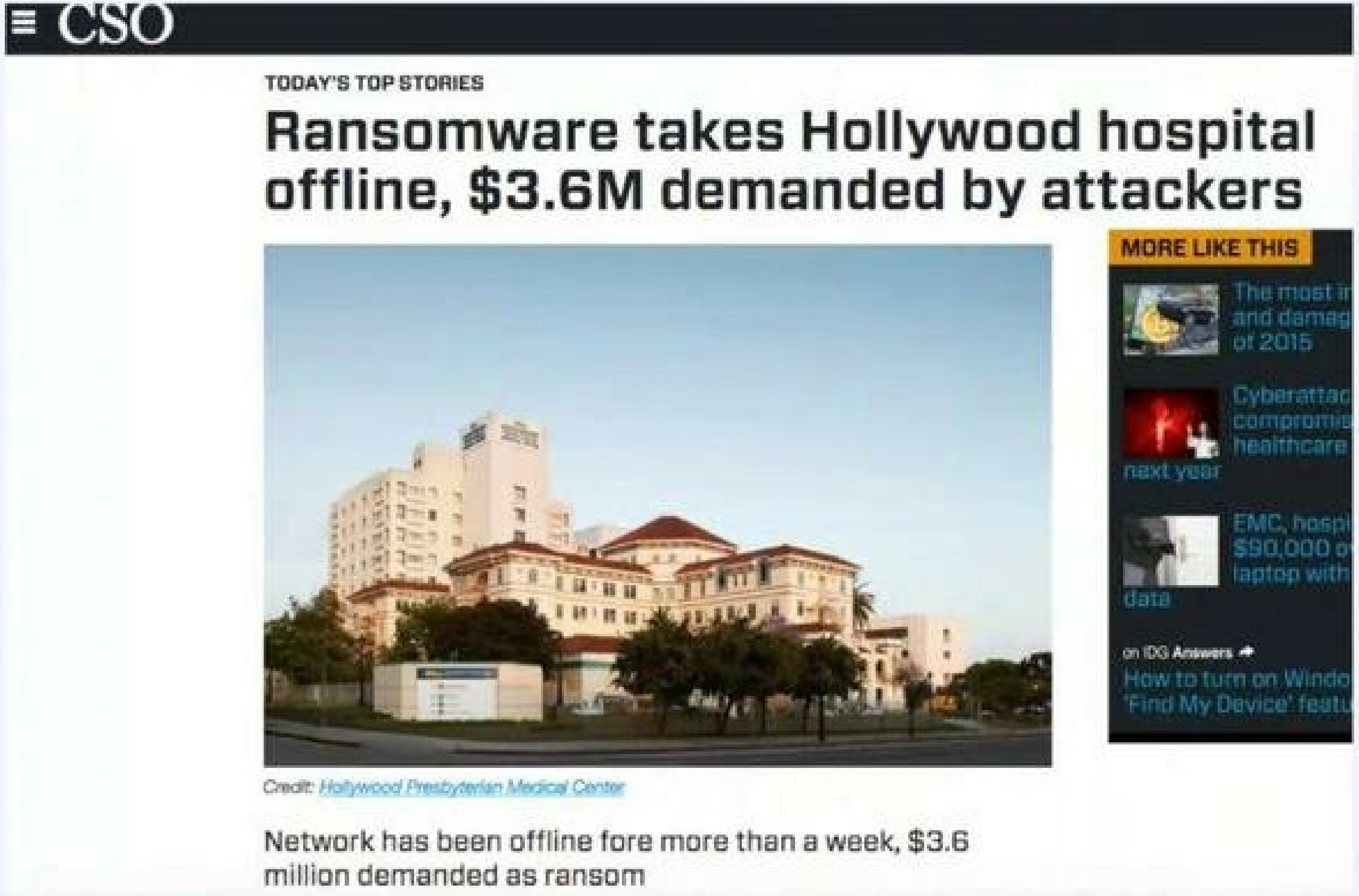
The Hacker News™

Security in a serious way

Ransomware Hijacks Hotel Smart Keys to Lock Guests Out of their Rooms

Saturday, January 28, 2017   Mohit Kumar

Attacks



≡ CSO

TODAY'S TOP STORIES

Ransomware takes Hollywood hospital offline, $3.6M demanded by attackers

MORE LIKE THIS

The most i
and damag
of 2015

Cyberattac
compromis
healthcare
next year

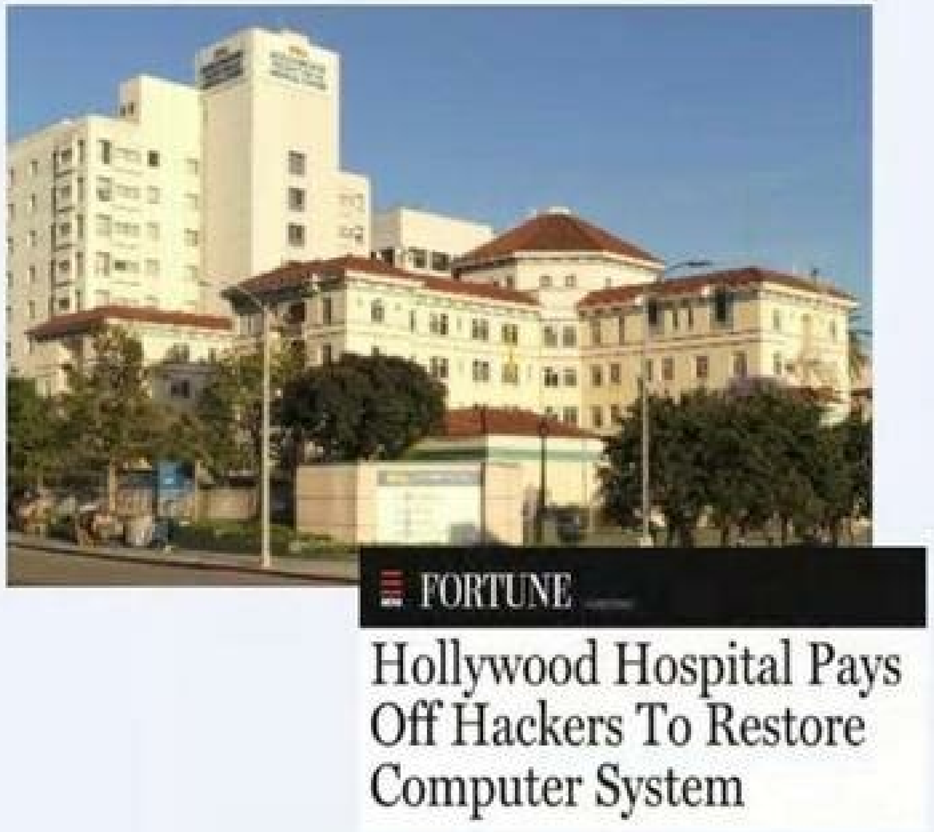
EMC, hospi
$90,000 o
laptop with
data

on IDG Answers ➦
How to turn on Windo
'Find My Device' featu

Credit: Hollywood Presbyterian Medical Center

Network has been offline fore more than a week, $3.6 million demanded as ransom

Victims: Organizations Sample



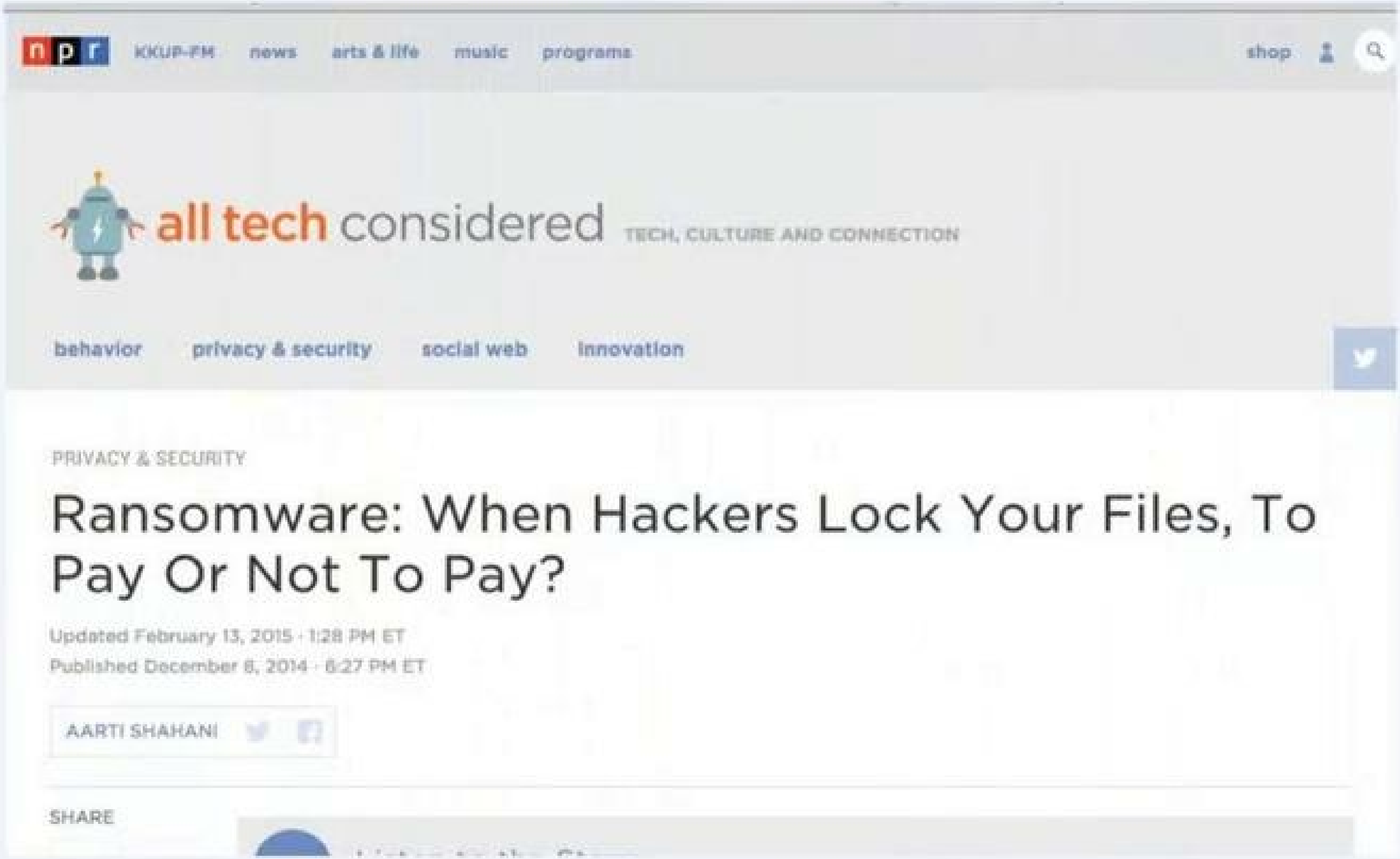
FORTUNE

Hollywood Hospital Pays Off Hackers To Restore Computer System

Hotel ransomed by hackers as guests locked out of rooms

"ONE OF EUROPE'S TOP HOTELS HAS ADMITTED THEY HAD TO PAY THOUSANDS IN BITCOIN RANSOM TO CYBERCRIMINALS WHO MANAGED TO HACK THEIR ELECTRONIC KEY SYSTEM, LOCKING HUNDREDS OF GUESTS OUT OF THEIR ROOMS UNTIL THE MONEY WAS PAID."

Attacks



PRIVACY & SECURITY

Ransomware: When Hackers Lock Your Files, To Pay Or Not To Pay?

Updated February 13, 2015 · 1:28 PM ET
Published December 8, 2014 · 6:27 PM ET

AARTI SHAHANI

SHARE

How Does Ransomware Work?

Cybercriminals

- Access the user's computer
- Create a code specifically designed to take control of a computer and hijack files

CryptoLocker

- Reveals itself only after it has scrambled user files
- User must be online and use their computer on the encryption server run by the criminals

Ransomware Delivery

Channel #1: Email Phishing

Channel #2: Exploit kits

Channel #3: Botnets and Downloaders

Channel #4: Social Media Phishing

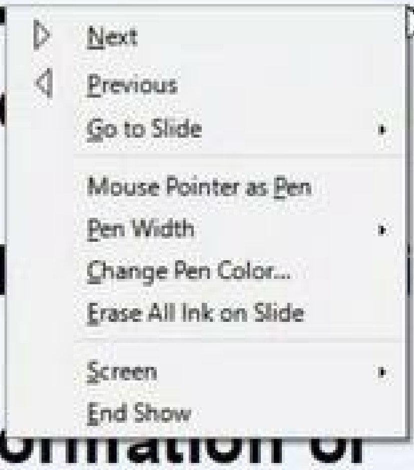
Identity Theft

Identity theft is a serious crime. Identity theft happens when someone uses information about you without your permission. They could use your:

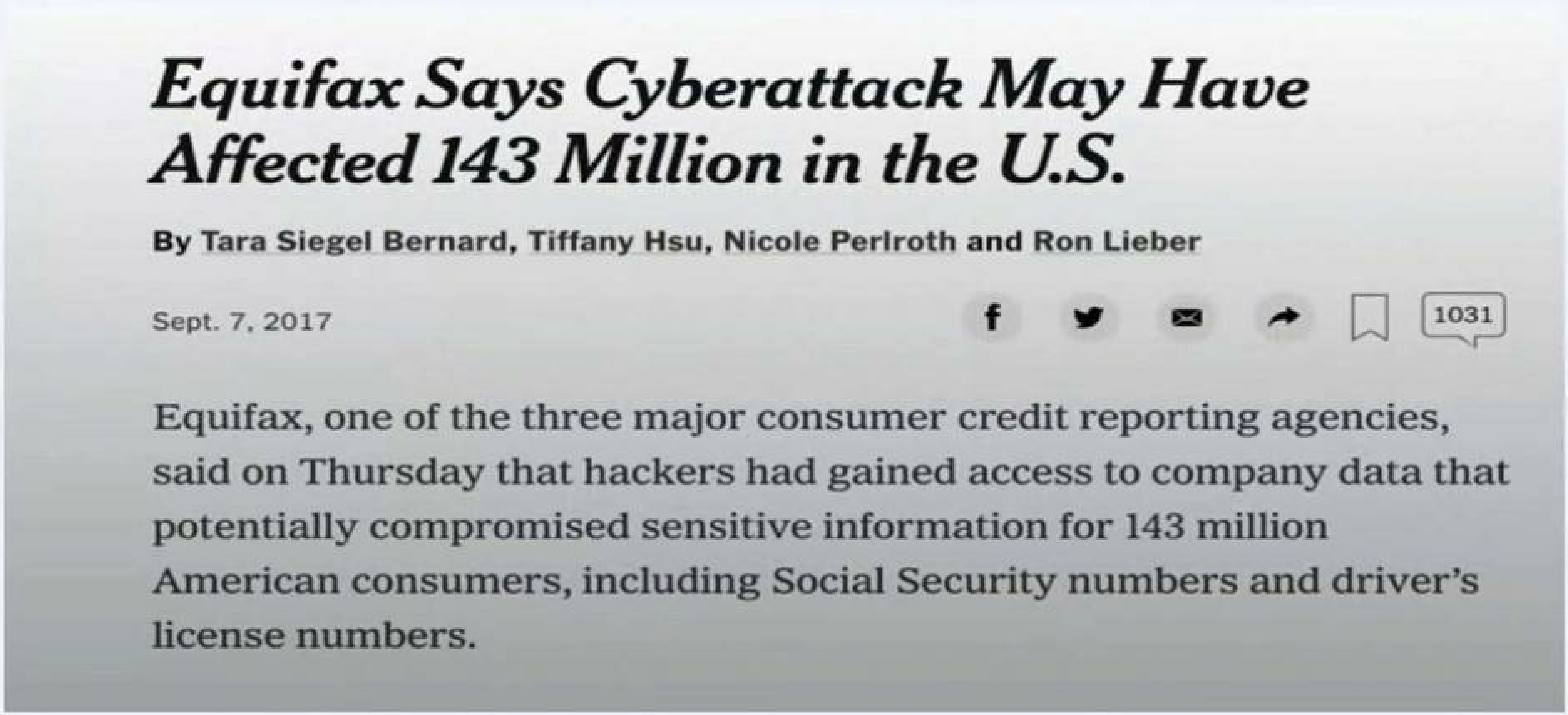
- name and address
- credit card or bank account numbers
- Social Security number
- medical insurance account numbers

Attackers

- Criminals wanting to steal your personal information an ack markets
- Businesses trying to gain an upper hand in the marketpl ing competitor websites.
- Spies and terrorists looking to rob our nation of vital info launch cyber strikes.



Case



Equifax Says Cyberattack May Have Affected 143 Million in the U.S.

By Tara Siegel Bernard, Tiffany Hsu, Nicole Perlroth and Ron Lieber

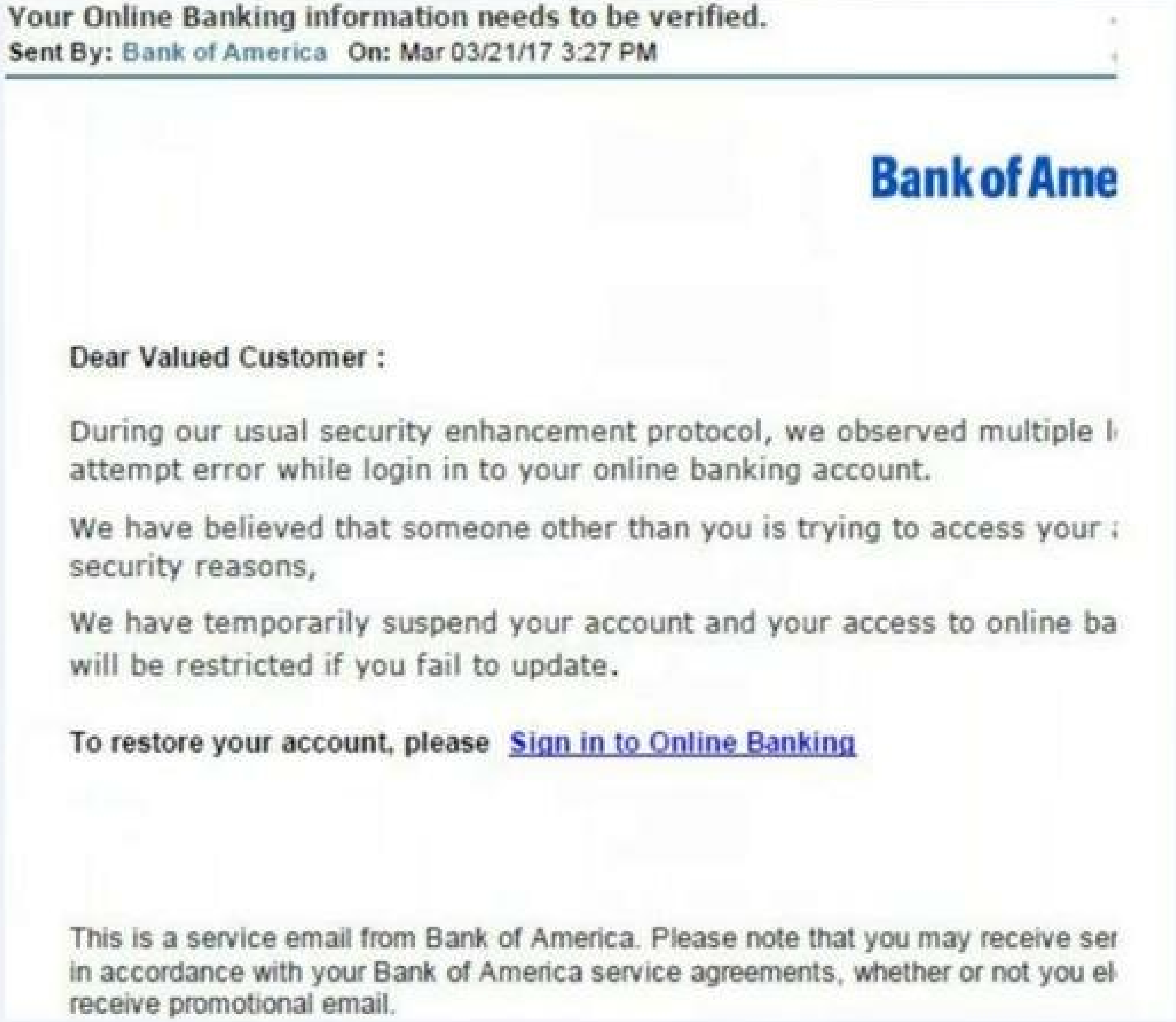
Sept. 7, 2017

Equifax, one of the three major consumer credit reporting agencies, said on Thursday that hackers had gained access to company data that potentially compromised sensitive information for 143 million American consumers, including Social Security numbers and driver's license numbers.

Phishing

Phishing is the fraudulent attempt to obtain sensitive information such as usernames, passwords and credit card details by disguising as a trustworthy entity in an electronic communication.

Message 22



Your Online Banking information needs to be verified.
Sent By: Bank of America On: Mar 03/21/17 3:27 PM

Dear Valued Customer :

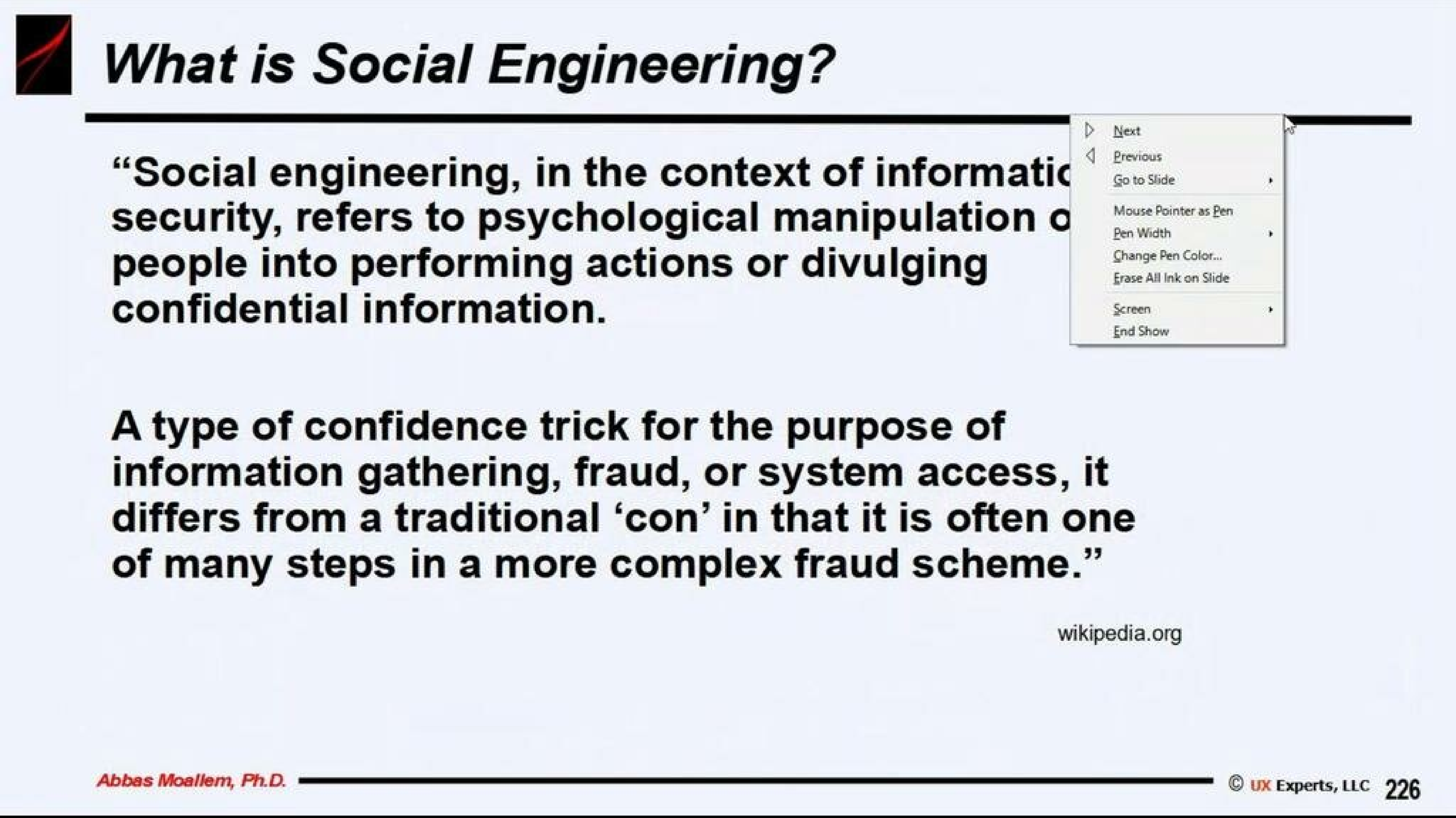
During our usual security enhancement protocol, we observed multiple l attempt error while login in to your online banking account.

We have believed that someone other than you is trying to access your a security reasons,

We have temporarily suspend your account and your access to online ba will be restricted if you fail to update.

To restore your account, please Sign in to Online Banking

This is a service email from Bank of America. Please note that you may receive ser in accordance with your Bank of America service agreements, whether or not you el receive promotional email.



What is Social Engineering?

"Social engineering, in the context of informatic security, refers to psychological manipulation o people into performing actions or divulging confidential information.

A type of confidence trick for the purpose of information gathering, fraud, or system access, it differs from a traditional 'con' in that it is often one of many steps in a more complex fraud scheme."

wikipedia.org

Who are Social Engineers?

- Hackers
- Penetration Testers
- Spies
- Identify Thieves
- Disgruntled Employees
- Scammers
- Executive Recruiters
- Salespersons
- Governments
- Doctor Psychologists
- Lawyer

Types of Social Engineering Attacks

- Baiting
- Phishing
- Pretexting
- Quid Pro Quo
- Spear Phishing
- Tailgating

Social Psychology

Human Behavior

Cialdini's Six Principles of Influence

Social Psychology is the scientific study of how people's thoughts, feelings, and behaviors are influenced by the actual, imagined, or implied presence of others.

Principle 1: Reciprocity

Obligation to Repay

Principle 2:Consistency and Commitment

Need for Personal Alignment

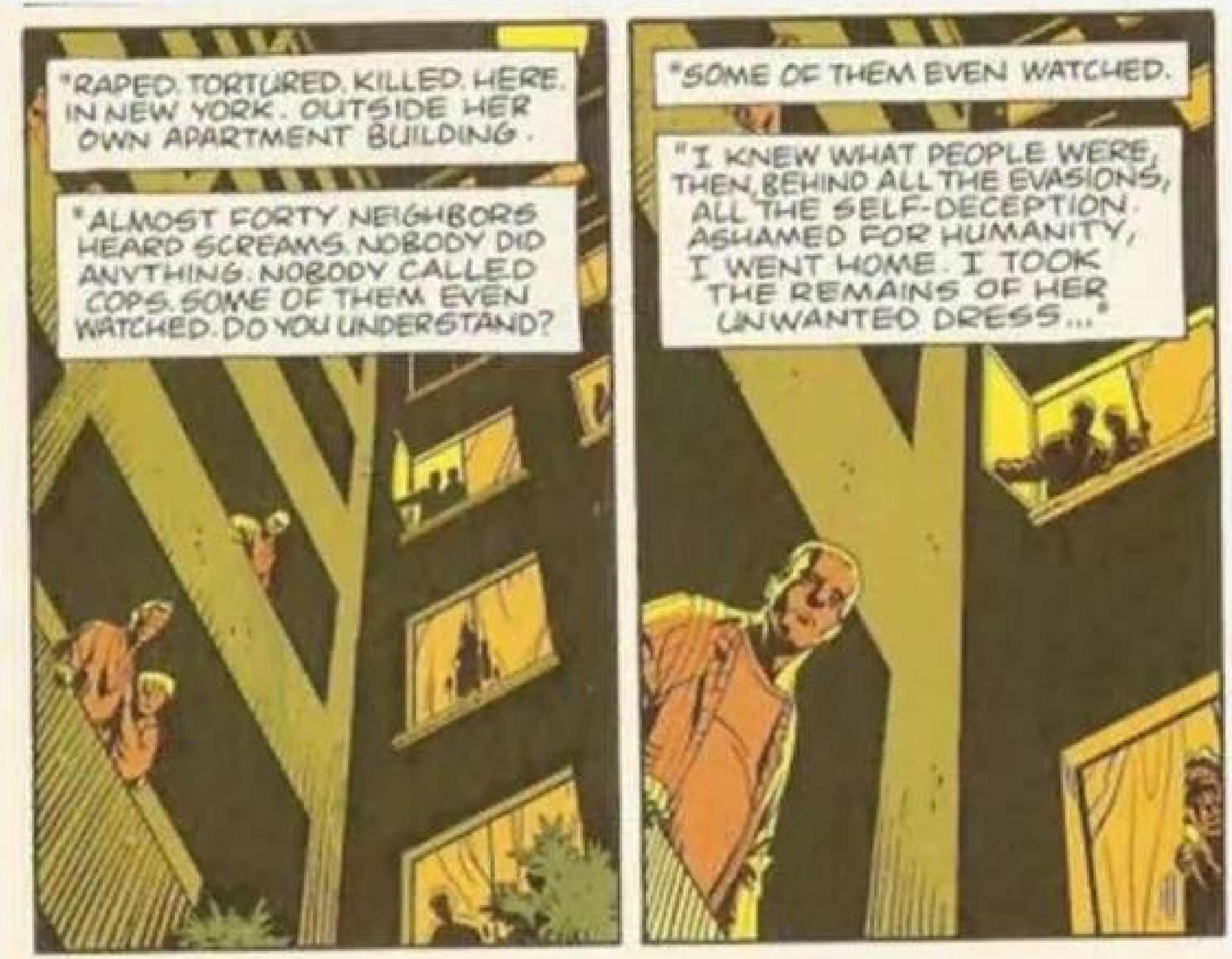
Principle 3: Social Proof

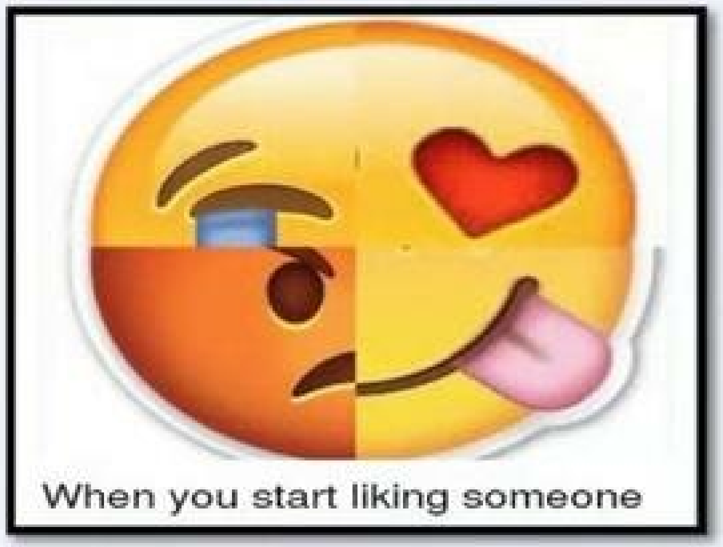
The Power of What Others Do

Looking around us for social cues on how to act

"It states that one means we use to determine what is correct is to find out what other people think is correct." (p. 116)

Bystanders


"RAPED. TORTURED. KILLED. HERE. IN NEW YORK. OUTSIDE HER OWN APARTMENT BUILDING.
"ALMOST FORTY NEIGHBORS HEARD SCREAMS. NOBODY DID ANYTHING. NOBODY CALLED COPS. SOME OF THEM EVEN WATCHED. DO YOU UNDERSTAND?
"SOME OF THEM EVEN WATCHED.
"I KNEW WHAT PEOPLE WERE, THEN, BEHIND ALL THE EVASIONS, ALL THE SELF-DECEPTION. ASHAMED FOR HUMANITY, I WENT HOME. I TOOK THE REMAINS OF HER UNWANTED DRESS..."



When you start liking someone

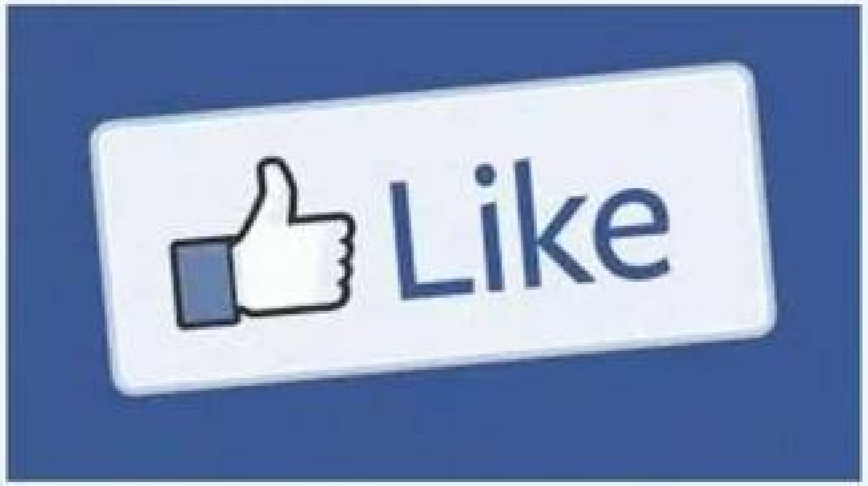
Principle 4: Liking

The Obligations of Friendship

Liking: The Friendly Thief

We like to say yes to people whom we like and know on a personal level.

- **Interpersonal Relationships**
- **Physical Attractiveness**
- **Similarity**
- **Praise**
- **Increased familiarity**

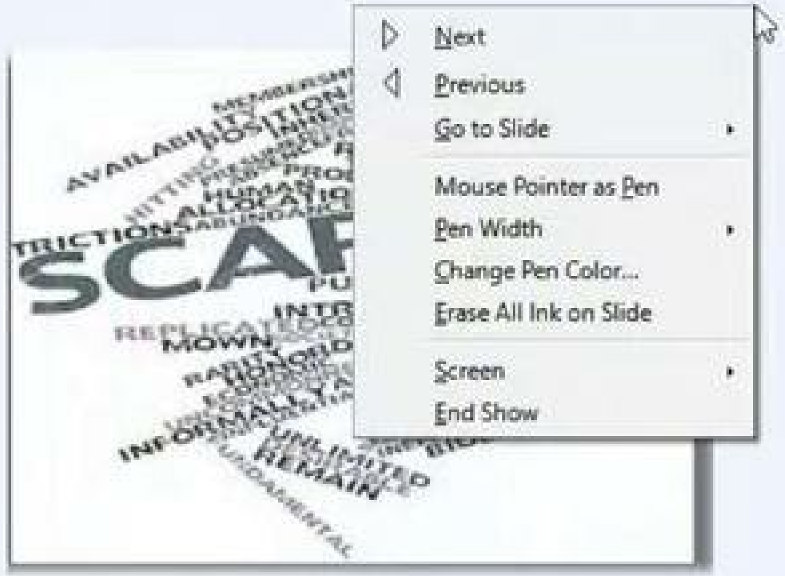


Compliments

JOE GIRARD “GREATEST CAR SALEMAN”

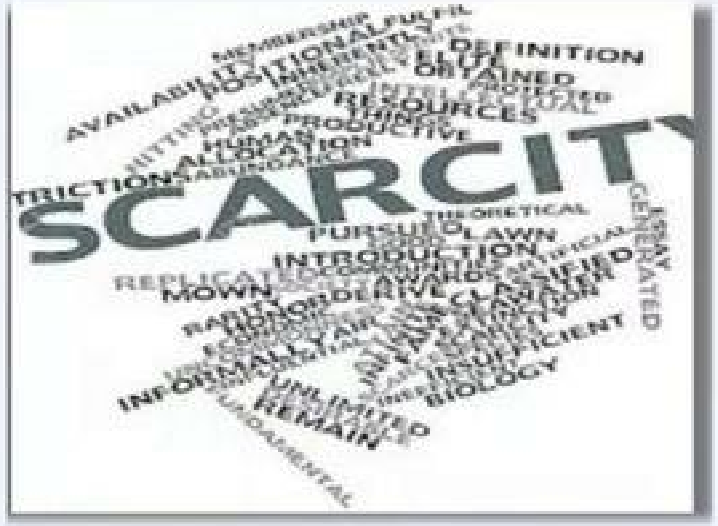
Principle 5: Authority

We Obey Those in Charge



Principle 6: Scarcity

We Want What May Not be Available



Principle 6: Scarcity

We Want What May Not be Available

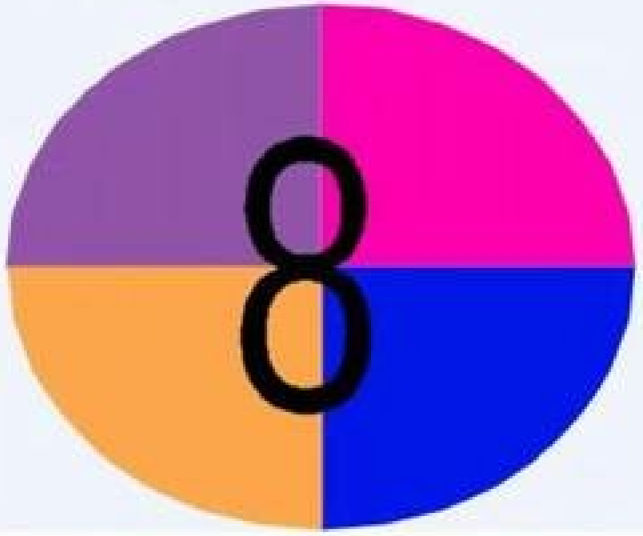
Experiments

Stanley Milgram in 1974

Milgram Experiment - Big History NL, threshold 6

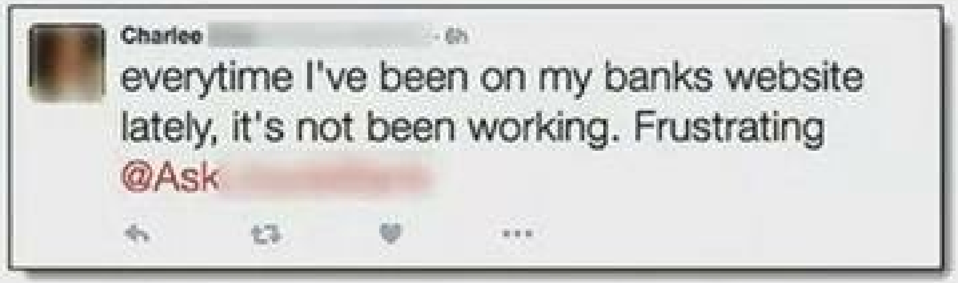
https://www.youtube.com/watch?v=DZ-F6Waua3Y

Mobile: Application Access



Application access settings determine whether one application can access resources from another application.

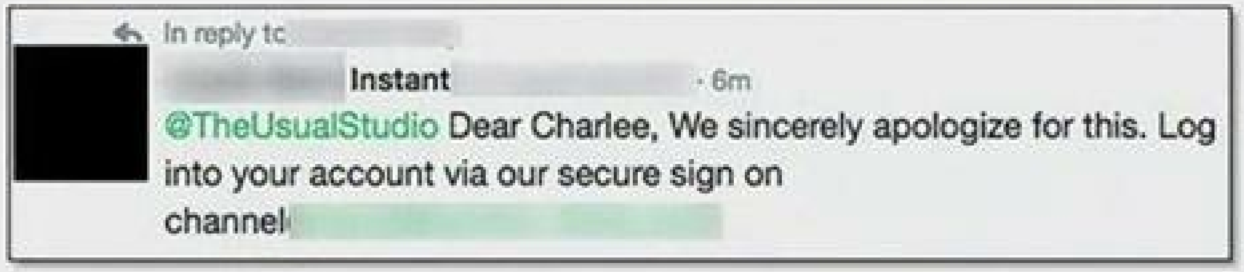
Fake Customer Service



Charlee [redacted] · 6h

everytime I've been on my banks website lately, it's not been working. Frustrating @Ask[redacted]

A real customer tweets at a major bank.



In reply tc[redacted]

[redacted]

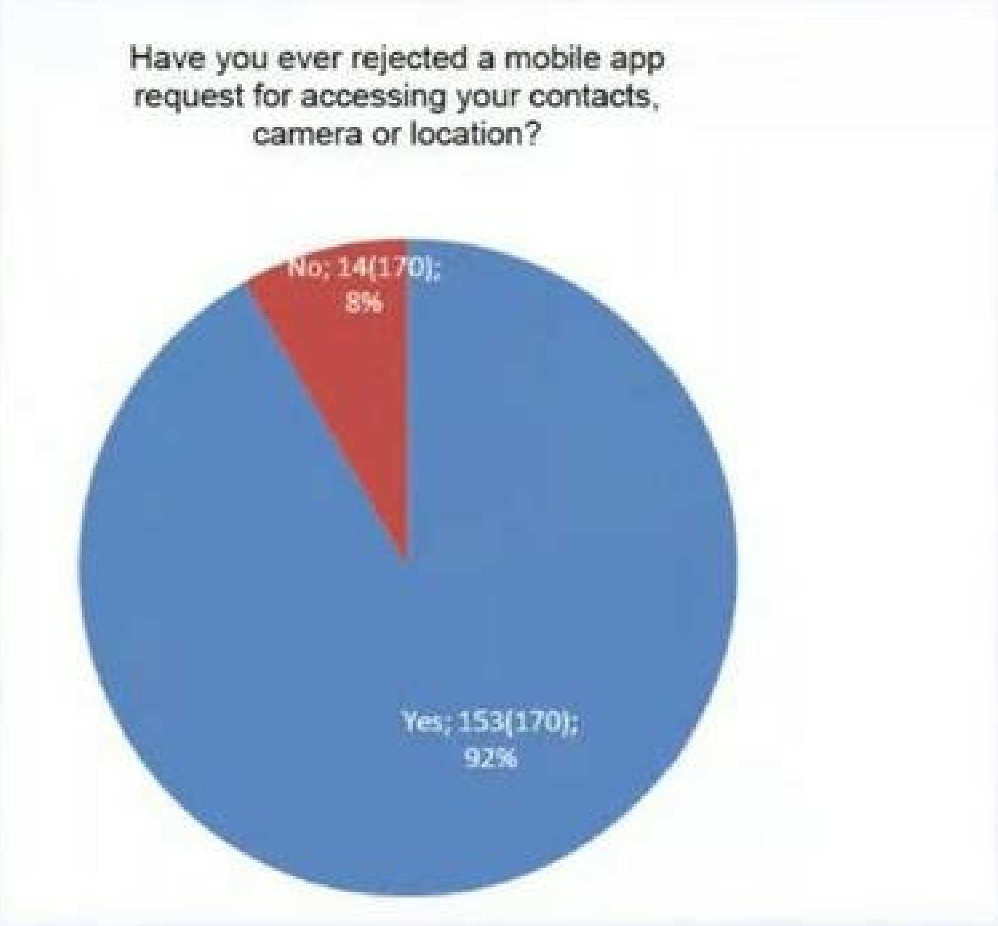
[redacted] Instant [redacted] · 6m

@TheUsualStudio Dear Charlee, We sincerely apologize for this. Log into your account via our secure sign on channel[redacted]

Fraudsters intercept the tweet with a link to a fake support site that tries to steal her actual bank account credentials.

PROOFPOINT

App Access


Have you ever rejected a mobile app request for accessing your contacts, camera or location?
No; 14(170); 8%
Yes; 153(170); 92%

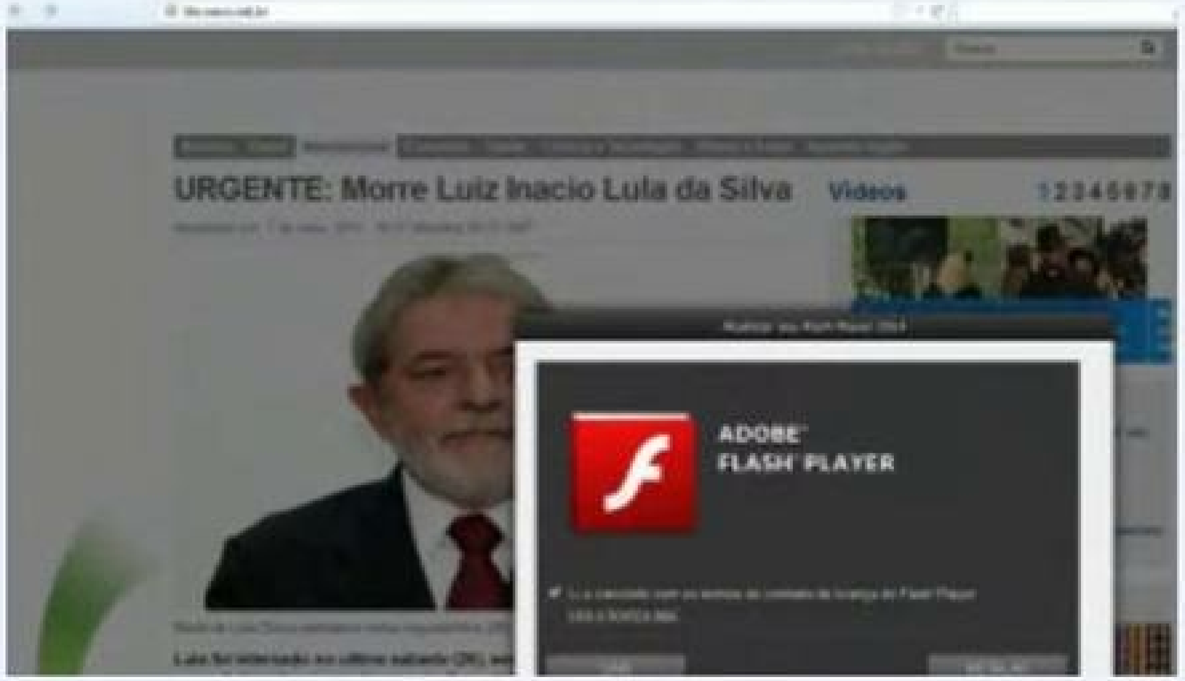
Social Media

Social media are interactive Web 2.0 Internet-based applications. User-generated content, such as text posts or comments, digital photos or videos, and data generated through all online interactions, is the lifeblood of social media.

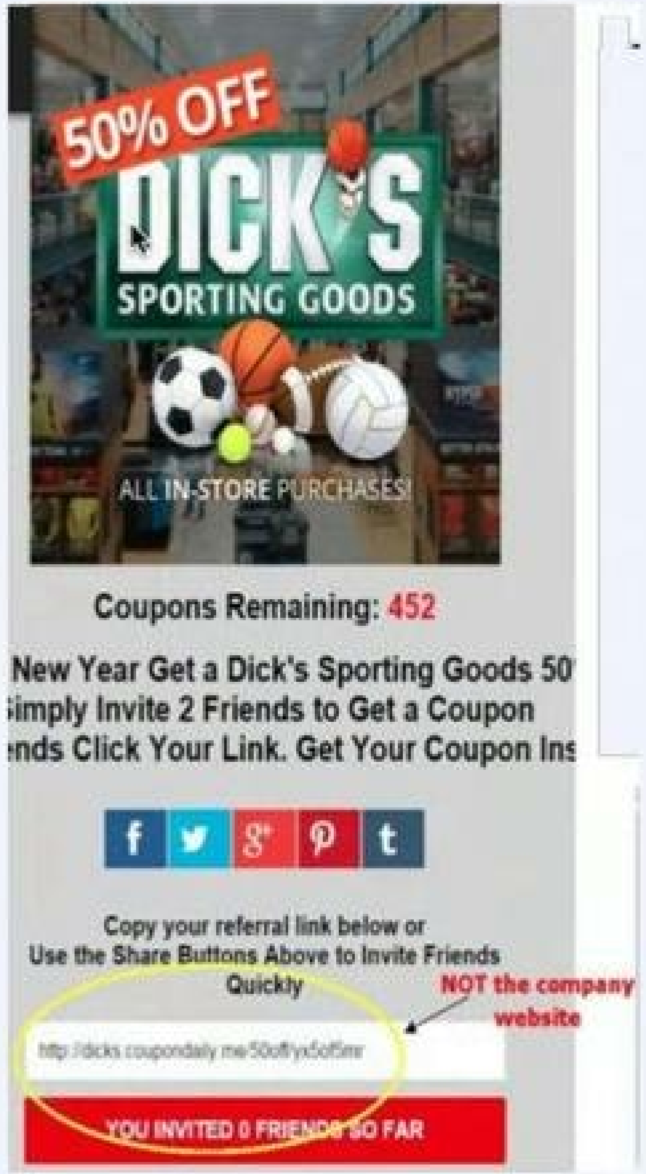
Self-revelation & Self Disclosure

Social Network Attacks

Fake Offers



URGENTE: Morre Luiz Inacio Lula da Silva



Coupons Remaining: 452

New Year Get a Dick's Sporting Goods 50
imply Invite 2 Friends to Get a Coupon
nds Click Your Link. Get Your Coupon Ins

Copy your referral link below or
Use the Share Buttons Above to Invite Friends
Quickly

http://dicks.coupondaily.me/50offyx5of5mr

YOU INVITED 0 FRIENDS SO FAR

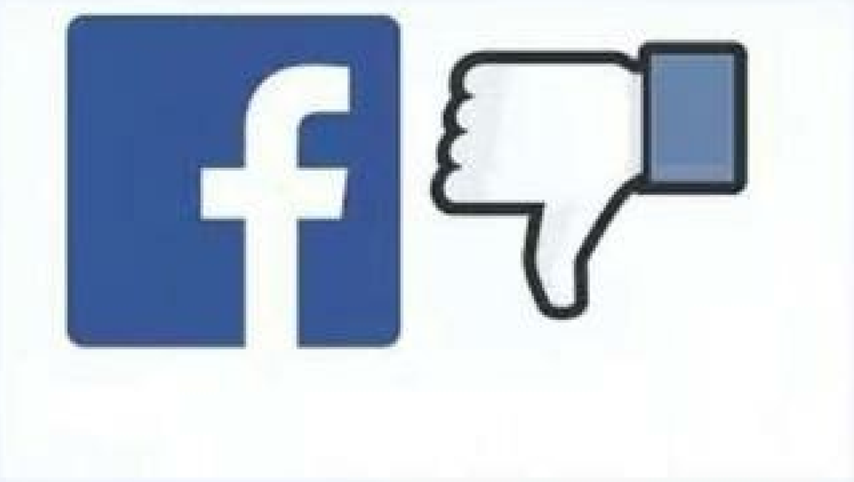
NOT the company website

Hacking Social Networking Sites

- A hacker can create a free profile on a site like LinkedIn,
- Designing his profile to match perfectly with the business interests of the target.
- If the target accepts the hacker as a connection, then the hacker suddenly has access to information on all of the target's other connections.

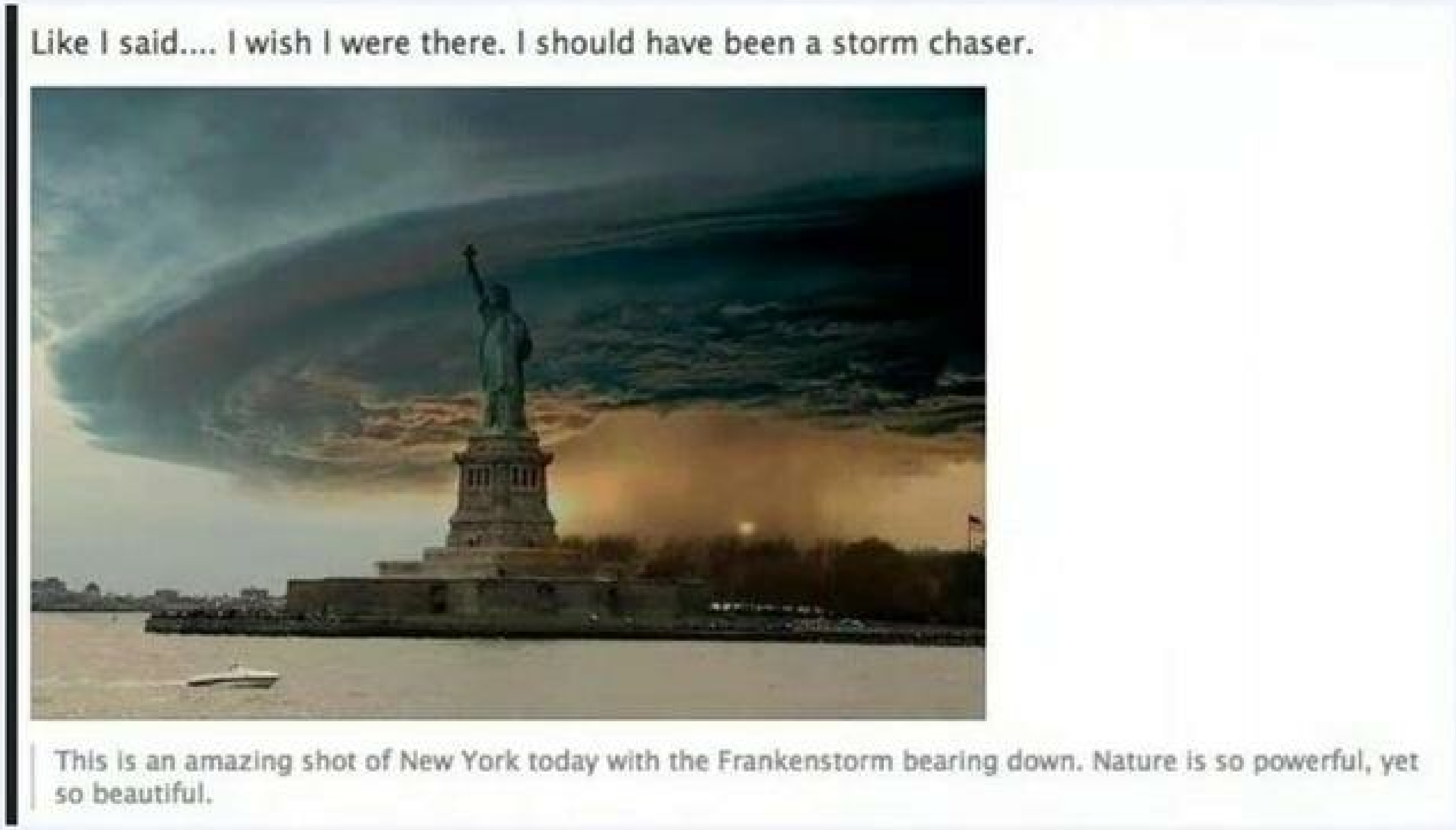
"Likejacking"

Fake "Like" buttons install malware to ultimately gain access to the user's computer.



Fake Apps

Tricking users to install a supplemental application



Like I said.... I wish I were there. I should have been a storm chaser.

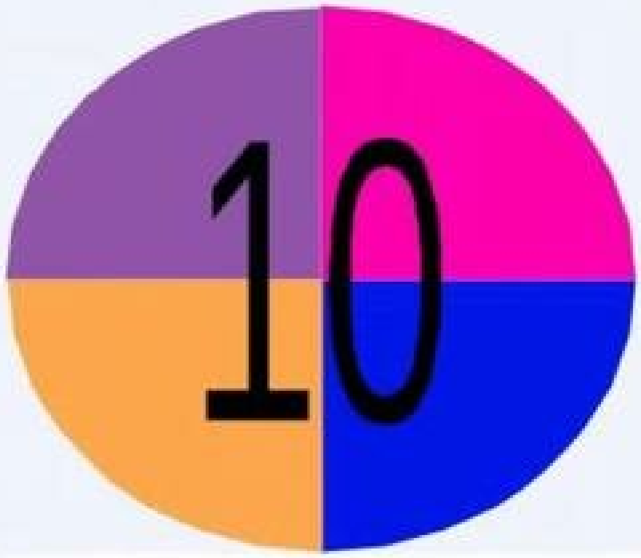
This is an amazing shot of New York today with the Frankenstorm bearing down. Nature is so powerful, yet so beautiful.

User Vulnerability

- The more a user posts online, the more attractive of a target they become.

- Young people often, sometimes inadvertently, give away their location, the name of their school, and enough other information to put themselves at risk.

Home Networking



Privacy concerns the right of a person to not disclose specific information about himself or herself, or more precisely, to disclose that information only to selected entities, but not to others

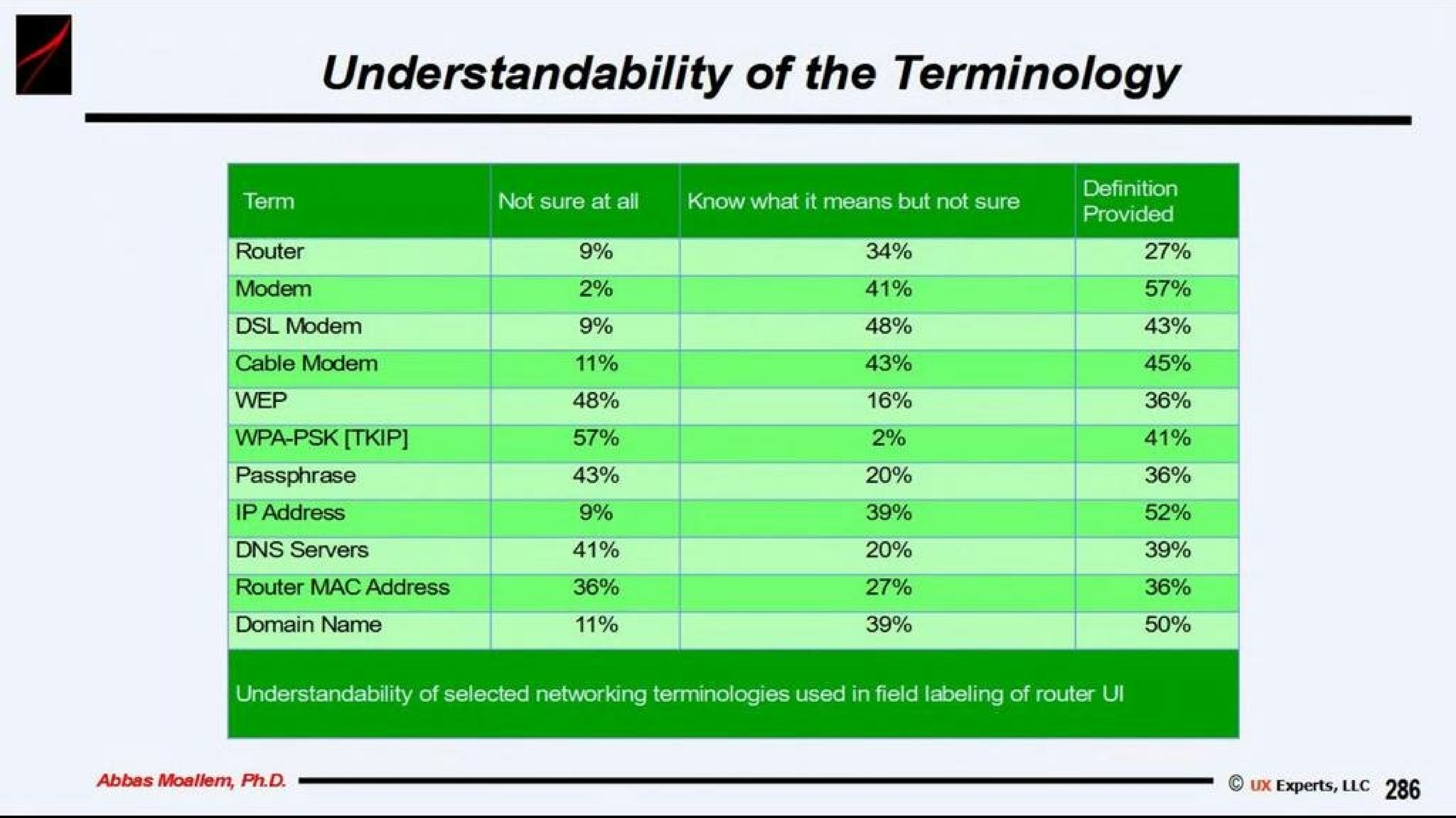
Questions for the Audience

Do you know meaning of the any of the following terms?

- *WEP*
- *WPA-PSK [TKIP]*
- *WPA-PSK WPA2-PSK [AES]*
- *Gateway IP Address*
- *Guest Network*
- *Router MAC Address*
- *DSL Modem*
- *Cable Modem*

Question

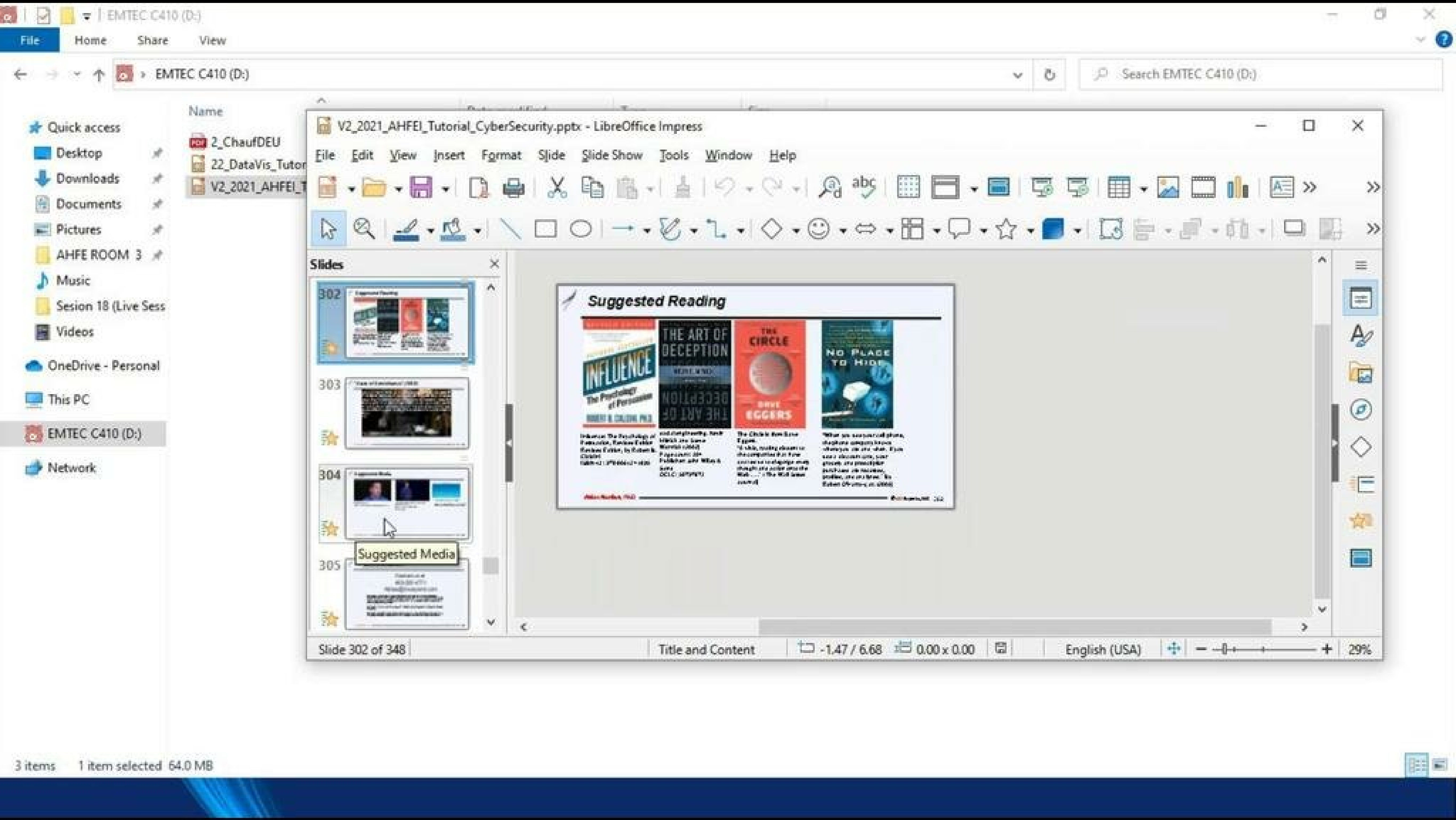
How many of you know to set your home networking password?



Understandability of the Terminology

Term	Not sure at all	Know what it means but not sure	Definition Provided
Router	9%	34%	27%
Modem	2%	41%	57%
DSL Modem	9%	48%	43%
Cable Modem	11%	43%	45%
WEP	48%	16%	36%
WPA-PSK [TKIP]	57%	2%	41%
Passphrase	43%	20%	36%
IP Address	9%	39%	52%
DNS Servers	41%	20%	39%
Router MAC Address	36%	27%	36%
Domain Name	11%	39%	50%

Understandability of selected networking terminologies used in field labeling of router UI



EMTEC C410 (D:)

V2_2021_AHFEI_Tutorial_CyberSecurity.pptx - LibreOffice Impress

Suggested Reading

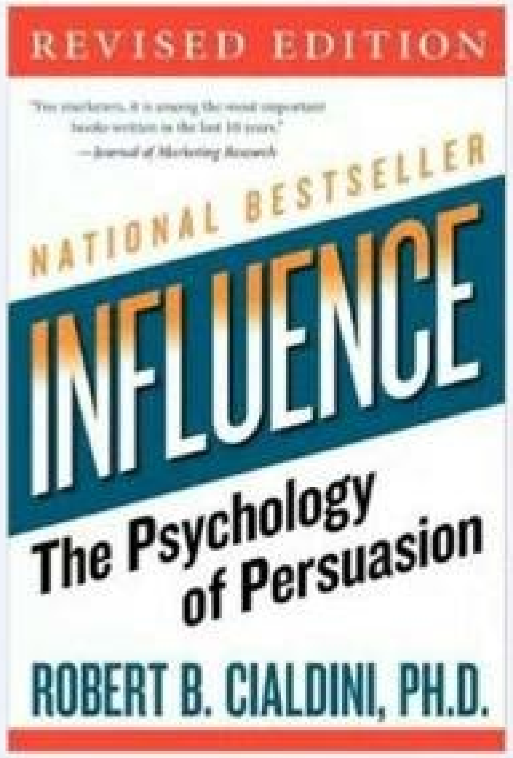
[illegible]

Welcome

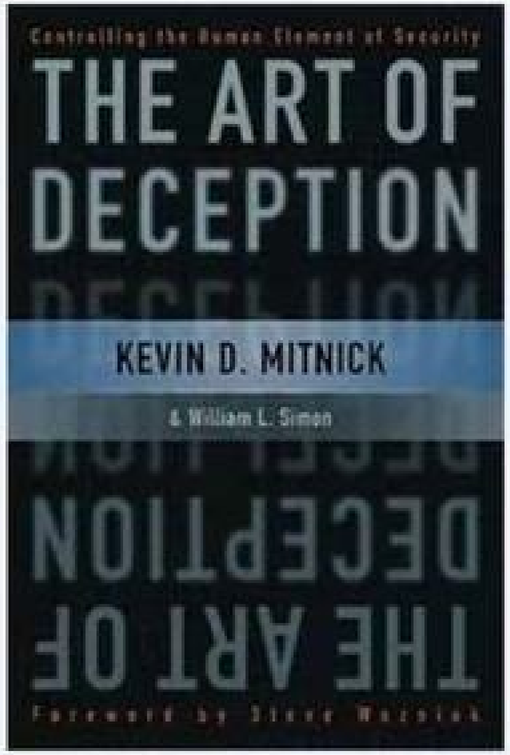
10 Things you need to know to protect yourself and your company from cyber attacks

The roots of education are bitter, but the fruit is sweet. **Aristotle**

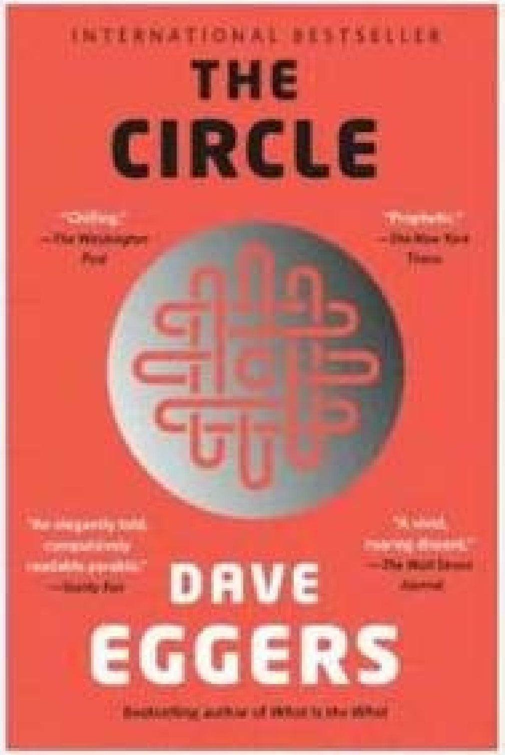
Suggested Reading



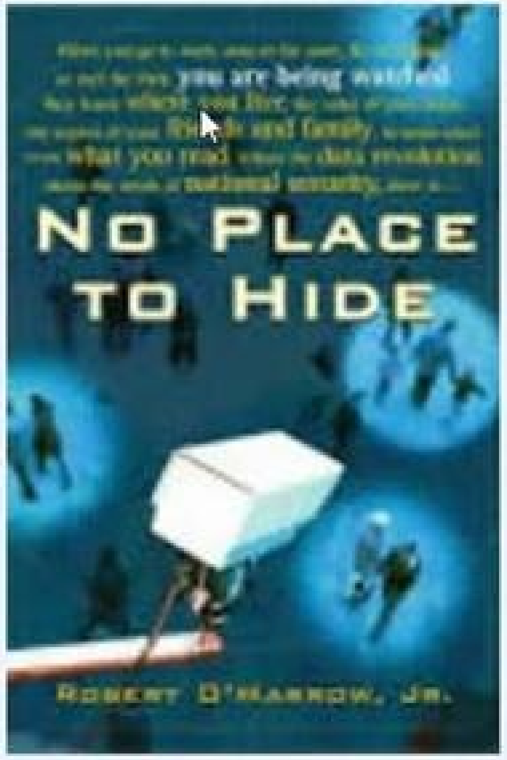
Influence: The Psychology of Persuasion, Revised Edition Revised Edition, by Robert B. Cialdini
ISBN-13: 978-0061241895


Controlling the Human Element of Security
THE ART OF DECEPTION
KEVIN D. MITNICK
& William L. Simon
Foreword by Steve Wozniak

social engineering. Kevin Mitnick and Steve Wozniak (2002)
Page count: 304
Publisher: John Wiley & Sons
OCLC: 50797873

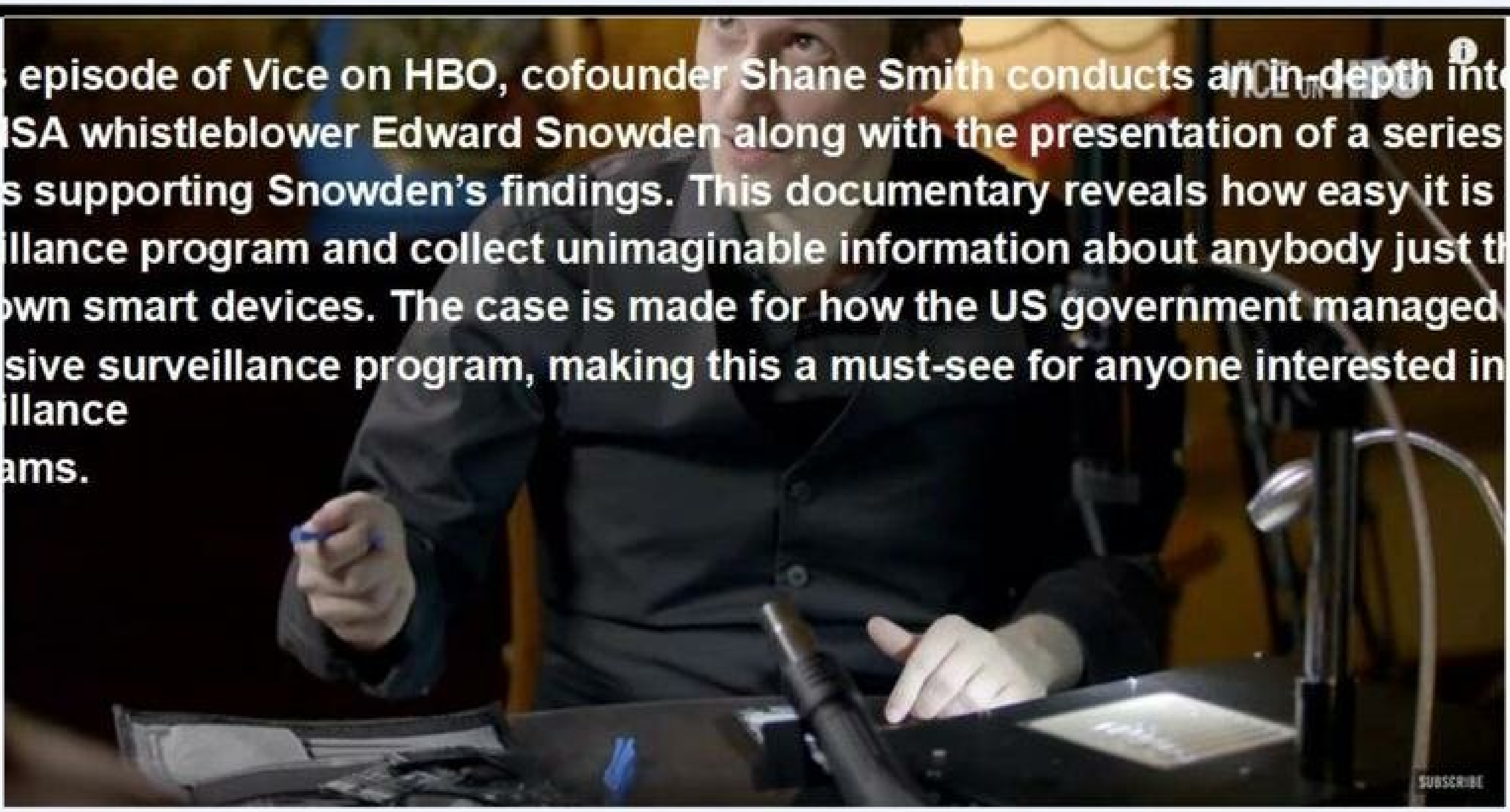


The Circle is from Dave Eggers.
“A vivid, roaring dissent to the companies that have coaxed us to disgorge every thought and action onto the Web . . .” (The Wall Street Journal)



"When you use your cell phone, the phone company knows where you are and when. If you use a discount card, your grocery and prescription purchases are recorded, profiled, and analyzed.” By Robert O'Harrow, Jr. (2005)

“State of Surveillance” (2016)



In this episode of Vice on HBO, cofounder Shane Smith conducts an in-depth interview with NSA whistleblower Edward Snowden along with the presentation of a series of the stories supporting Snowden’s findings. This documentary reveals how easy it is to run a surveillance program and collect unimaginable information about anybody just through their own smart devices. The case is made for how the US government managed to run a massive surveillance program, making this a must-see for anyone interested in surveillance programs.

Suggested Media

Why privacy matters

https://www.youtube.com/watch?v=pcSlowAhvUk

Edward Snowden on How We Take Back the Internet | TED Talks

https://www.youtube.com/watch?v=yVwAodrjZMY

The New York Times

The Business of Selling Your Location

The Business of Selling Your location

https://www.nytimes.com/2018/12/10/podcasts/the-daily/location-tracking-apps-privacy.html

Sebastian of Portugal

Dom Sebastian I (Portuguese: Sebastião .I[1] Portuguese pronunciation: [sɨbɐʃˈti.ɐ̃w̃]; 20 January 1554 – 4 August 1578) was King of Portugal and the Algarves from 11 June 1557 to 4 August 1578 and the penultimate Portuguese monarch of the House of Aviz.