



# Cyber Awareness

*Revision May 2021*

Module A – Understanding Why

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Login: admin  
Password: admin



# What Changed?

## Daily Interactions are Changing



Pope Benedict Inauguration (2005)  
Pope Francis Inauguration (2013)

New digital interactions alter people's experiences with, and expectations of, brands





# Statistics

## CYBER CRIME STATISTICS

Average monetary  
cost to victim of  
cyber crime:



Email scams  
sent daily:

**\$75M**



Daily victims of  
scam emails:

**2,000**



Percent of  
Americans  
who have  
experienced  
cyber crime:

**73%**



Percentage of  
Americans who  
believe that cyber  
criminals will not  
be brought to  
justice:

**78%**




Percentage of  
Americans who  
expect to escape  
cyber crime in their  
life time:

**2%**





**The Associated Press**   
@AP



**Following**

**Breaking: Two Explosions in the White House and Barack Obama is injured**



Reply



Retweet



Favorite



More

**3,063**

RETWEETS

**144**

FAVORITES



12:07 PM - 23 Apr 13

A screengrab of the fake tweet sent by hackers from the Associated Press Twitter account



A chart showing the Dow Jones plunge in the moments after the bogus AP tweet was sent from the agency's hacked account.



STAR TRIBUNE  
**S&K**



# Data Breaches

Data brokers of information:

- People's personal browsing habits.

These companies are unregulated, and when one leaks, all hell breaks loose.





# Media Makers



# Why Bother?





# Malware

Piecing Together the Global Threat Jigsaw



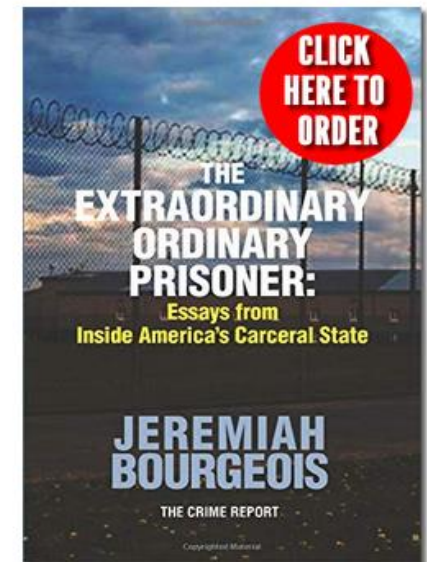
# Newest Target of Cyber Attacks: America's Hospitals

By Nancy Bilyeau | August 18, 2021

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Photo by Open Grid Scheduler via Flickr



Sign Up For The Crime Report






The logo for Sky Lakes, featuring a blue flame icon to the left of the text "SKY LAKES" in a serif font. Below the text is a small horizontal bar.


BUSINESS

# The Ruthless Hackers Behind Ransomware Attacks on U.S. Hospitals: ‘They Do Not Care’


An Eastern European group known as Ryuk has hit at least 235 facilities, raking in more than \$100 million

- 
- As of August, there have been 38 attacks reported during on health care providers during 2021.
  - These have disrupted patient care at roughly 963 locations.
  - During all 2020, we had 560 sites being impacted in 80 separate incidents.



- 
- In 2020, more than 29 million health records were compromised, 67% due to hacking, including the largest a ransomware attack on cloud service provider, Blackbaud.
  - Hospitals now account for 30% of all large data breaches and at an estimated cost of \$21 billion in 2020 alone.

- 
- 25% year-over-year increase in healthcare data breaches.
  - Healthcare data breaches have doubled since 2014.
  - 642 healthcare data breaches of 500 or more records were reported in 2020.
  - 1.76 data breaches of 500 or more healthcare records were reported each day in 2020.
  - 2020 saw more than 29 million healthcare records breached.

- 
- One breach involved more than 10 million records and 63 saw more than 100K records breached.
  - Hacking/IT incidents accounted for 67% of data breaches and 92% of breached records.
  - 3,705 data breaches of 500 or more records have been reported since October 2009.
  - 78 million healthcare records have been breached since October 2009





# Perspectives in Healthcare Security

An industry report that examines attitudes, concerns, and impacts on medical device security as well as cybersecurity across large and midsize healthcare delivery organizations.

**Sponsored by:**



# Key Findings



## Ransomware is attacking the bottom line

48% of hospital executives reported either a forced or proactive shutdown in the last 6 months as a result of external attacks or queries.

## Midsize hospitals feeling more pain

Of respondents that experienced a shutdown due to external factors, large hospitals reported an average shutdown time of 6.2 hours at a cost of \$21,500 per hour while midsize hospitals averaged nearly 10 hours at more than double the cost or \$45,700 per hour.

## Cybersecurity investment not a high priority

Despite continuing cyber-attacks against healthcare and roughly half of respondents experiencing an externally motivated shutdown in the last 6 months, more than 60% of hospital IT teams have "other" spending priorities and less than 11% say cybersecurity is a high priority spend.

## Dangerous Vulnerabilities Still Not Dealt With

When asked about common vulnerabilities such as BlueKeep, WannaCry and NotPetya, the majority of respondents said their hospitals were unprotected. 48% of respondents admitted their hospitals were not protected against the Bluekeep vulnerability, and that number increased 64% for WannaCry and 75% for NotPetya.

## Lack of automation creates gaps in security

65% of IT teams in hospitals rely on manual methods for inventory calculations with 7% still in full manual mode. In addition, 17% of respondents from midsize hospitals and 15% from large hospitals admitted they have no way to determine the number of active or inactive devices within their networks.

## Is there a staffing disconnect?

While 2/3 of IT teams believe they are adequately staffed for cybersecurity, nearly half of Biomed teams believe more staff is needed. Conversely, the industry has been experiencing a cybersecurity talent shortage and 100+ day lag to fill jobs.

## Cyber insurance and compliance are popular options

58% of IT teams consider compliance "almost always" and rate it a high impact on their jobs. Similarly, 58% also said they had cyber insurance.

A dark, textured background featuring a calendar page on the left with the word "DAY" and the number "0" visible. The word "Exploits" is written in large, white, sans-serif font in the center. The background also has a faint, repeating pattern of binary code (0s and 1s).

# Exploits

# The Criminal

- Demand money in exchange for digital keys to unlock the data.
- 2 out of 3 times the victims pay, especially when encrypted data hasn't been backed up.





# What Do Your Devices Know About You?

Passwords  
Credit Card Numbers  
Bank Account Info



Recent Accessed Files  
Visited Sites  
Recently Deleted Files

Contacts and Relatives  
Names & Addresses  
Identification Numbers

Phone Calls  
Text Messages  
E-mails





# Social Engineering

## *The Human Factor*



# Social Engineering

## A Definition Of Social Engineering:

“Any act that influences a person to take an action that may or may not be in their best interest.”

*Any act that influences a person to take an action that may or may not be in their best interest.*

Source: Chris Hadnagy, [www.social-engineer.org](http://www.social-engineer.org)





# Reciprocity

## Social Engineering Principles (1)

### Reciprocity:

I will do something for you and you will feel morally obligated to return the favor.



# RECIPROCI

# Obligation

## Social Engineering Principles (2)

### **Obligation:**

The moral, unspoken obligations we put up ourselves to react in certain ways.





# Concession

## Social Engineering Principles (3)

### Concession:

Giving up something you “want” so they give up something they want.





# Scarcity

## Social Engineering Principles (4)

### Scarcity:

The scarcer things become, the higher they will be valued.



# Authority

## Social Engineering Principles (5)

### Authority:

In society we look up to people in a uniform, expensive suit or in a position of authority (e.g., manager, doctor)





# Commitment and Consistency

## Social Engineering Principles (6)

### Commitment and Consistency:

If you say 'yes' once, you're more likely to follow that up with another positive answer.





# Liking

## Social Engineering Principles (7)

### Liking:

We like people who *are* like us and...  
...we *really* like people who like us.

LIKING





# Social Proof

## Social Engineering Principles (8)

### Social Proof:


People do not like to feel uncertain and will look around to others on clues on how to think and act.





# Methodology

## The methods used by Social Engineers

- 
- Create an (artificial) **time** constraint;
  - Make the other person feel **at ease**;
  - Keeping ones **credibility**;
  - Let the **other person** fill in the 'blanks';
  - Be **helpful** or be **needy**;
  - **Dress** appropriately;
  - **Act** appropriately;
  - Stay natural, genuine and **real**;
  - Pay honest **attention** to the person, use **flattery**;
  - And much more...





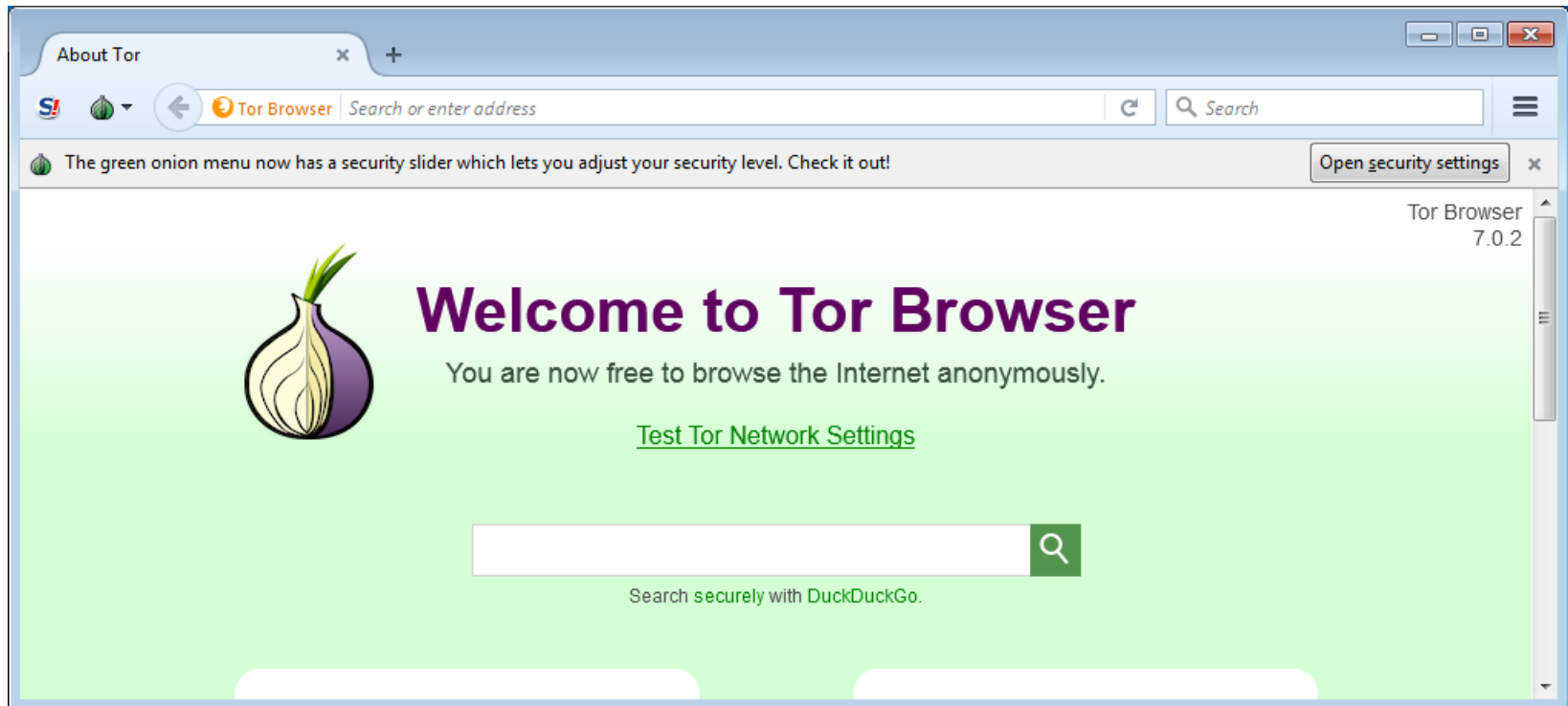
# Why is Social Engineering Effective?

- Security are as strong as their weakest link, and humans are the most susceptible factor
- It is difficult to detect social engineering attempts
- There is no method to ensure complete security from social engineering attacks
- There is no specific software or hardware for defending against a social engineering attack

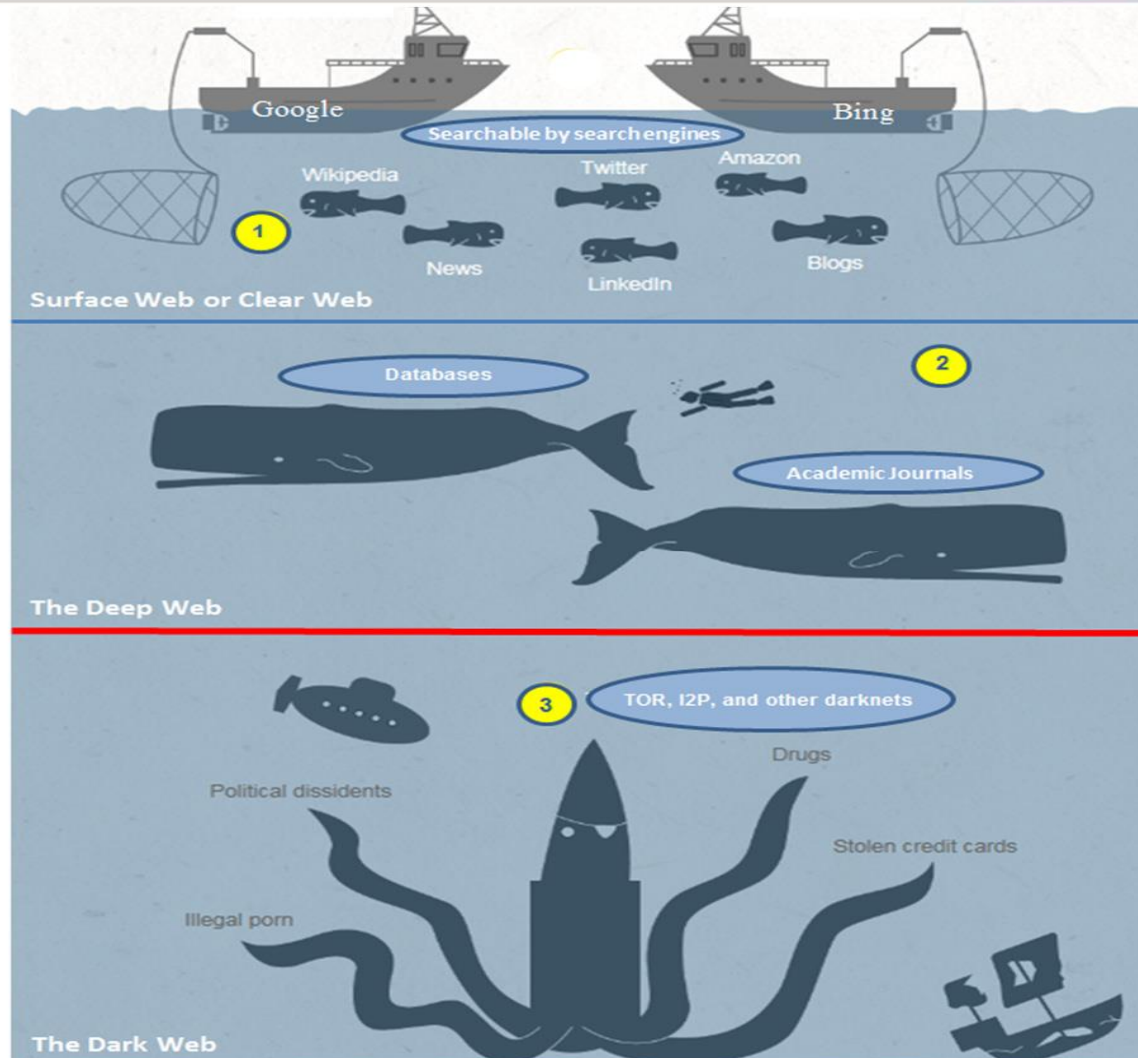
# Maslow



# Dark Web







(<http://money.cnn.com/infographic/technology/what-is-the-deep-web/>)



Search Results | Alphabay ...

pwoah7foa6au2pul.onion/search.php?fr=20

Search

**AlphaBay Market**



Balance: BTC 0.0000 / XMR 0.0  
Autoshop Logout

USD 1019.88 CAD 1328.29 EUR 948.66 AUD 1330.87 GB

HOME SALES MESSAGES ORDERS LISTINGS BALANCE FEEDBACK FORUMS API SUPPORT



Search Results



BROWSE CATEGORIES

<input type="checkbox"/>	Fraud	36204
<input checked="" type="checkbox"/>	Drugs & Chemicals	196365
<input type="checkbox"/>	Benzos	14647
<input type="checkbox"/>	Cannabis & Hashish	64765
<input type="checkbox"/>	Dissociatives	4280
<input type="checkbox"/>	Ecstasy	30025
<input checked="" type="checkbox"/>	Opioids	16803
<input type="checkbox"/>	Pills	6429
<input type="checkbox"/>	Heroin	4267
<input type="checkbox"/>	Fentanyl & RCs	3268
<input type="checkbox"/>	Other	2839
<input type="checkbox"/>	Prescription	8707
<input type="checkbox"/>	Steroids	6544
<input type="checkbox"/>	Stimulants	32889
<input type="checkbox"/>	Tobacco	525
<input type="checkbox"/>	Weight Loss	504
<input type="checkbox"/>	Other	1860
<input type="checkbox"/>	Paraphernalia	891
<input type="checkbox"/>	Paraphernalia	13025

Search Results [Save Search]



[MS] [FE 100%] [Sticky] 1 Gram China White Synthetic Heroin Fentanyl Mix \$40 Per Gram <<HOT ITEM>> (#4 Heroin Substitute) USA SHIPPING ONLY  
Item # 180029 - Opioids / Heroin - NarcoBoss (2538)

Views: 40404 / Bids: Fixed price  
Quantity left: Unlimited

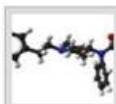
Buy price  
USD 40.00  
(0.0392 BTC)



[FE 100%] [Sticky] ★★ FULL ESCROW ★★ USA DOMESTIC ★★ 100MG 99%+ PURE FENTANYL HCL ★★ LAB TESTED ★★ EXPRESS SHIPPING AVAILABLE ★★  
Item # 208334 - Opioids / Fentanyl & RCs - PrincessPaula (2121)

Views: 14453 / Bids: Fixed price  
Quantity left: Unlimited

Buy price  
USD 110.00  
(0.1079 BTC)



[FE 100%] [Sticky] \*\*\*\*\*100 mg Fentanyl HCL 98% pure BONUS / get 50mg | FREE with purchase (Lab tested)  
Item # 30713 - Opioids / Fentanyl & RCs - pharmaphil (2892)

Views: 21669 / Bids: Fixed price  
Quantity left: Unlimited

Buy price  
USD 102.00  
(0.1000 BTC)



[MS] [FE 100%] [Bulk] [Sticky] Roxycodone / Roxycodone (Oxycodone 30mg) Pills A215 \*LIGHTNING FAST SHIPPING\*FREE RESHIPS\*US TO US\*  
Item # 266599 - Opioids / Pills - DoctorLisa (9473)

Views: 13808 / Bids: Fixed price  
Quantity left: Unlimited

Buy price  
USD 18.00  
(0.0176 BTC)

BROWSE CATEGORIES	
<input type="checkbox"/> Fraud	36213
<input type="checkbox"/> Drugs & Chemicals	196393
<input type="checkbox"/> Guides & Tutorials	13023
<input type="checkbox"/> Counterfeit Items	7051
<input type="checkbox"/> Digital Products	15058
<input type="checkbox"/> Jewels & Gold	1559
<input checked="" type="checkbox"/> Weapons	3398
<input type="checkbox"/> Ammunition	381
<input checked="" type="checkbox"/> Pistols	1551
<input type="checkbox"/> Pistols	1551
<input checked="" type="checkbox"/> Long-Range Guns	335
<input type="checkbox"/> Explosives	237
<input type="checkbox"/> Hand Weapons	399
<input type="checkbox"/> Other	495
<input type="checkbox"/> Carded Items	3447
<input type="checkbox"/> Services	6913
<input type="checkbox"/> Other Listings	3353
<input type="checkbox"/> Software & Malware	2689
<input type="checkbox"/> Security & Hacking	600

## Search Results [\[Save Search\]](#)



### [MS] Pistol Requests

Item # 171167 - Pistols / Pistols - [Paperchaser49](#) (203)

Views: 34577 / Bids: Fixed price

Quantity left: Unlimited

Buy price

USD 0.00

(0.0000 BTC)



### [MS] One Glock 26 with Extra Clip

Item # 255875 - Pistols / Pistols - [redface33](#) (66)

Views: 33950 / Bids: Fixed price

Quantity left: Unlimited

Buy price

USD 2,200.00

(2.1485 BTC)



### [MS] DefCad and FossCad 3D printable handguns

Item # 196765 - Pistols / Pistols - [User531](#) (63)

Views: 6786 / Bids: Fixed price

Quantity left: Unlimited

Buy price

USD 5.00

(0.0049 BTC)



### [MS] Glock 17 w Silencer

Item # 44149 - Pistols / Pistols - [Alexandrea](#) (89)

Views: 98008 / Bids: Fixed price

Quantity left: Unlimited

Buy price

USD 3,700.00

(3.6134 BTC)





# Social Media

## 'Safest'



SilentCircle



Redphone



OSTel



ChatSecure



Signal  
(formerly  
Textsecure)

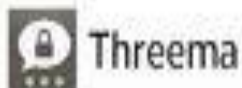
## 'Safe'



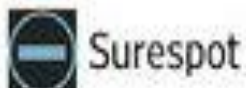
Telegram



Wickr



Threema



Surespot

## 'Moderately safe'



CoverMe



BBM



iMessage



FaceTime



Hangouts

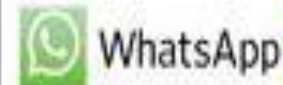


Facebook  
Messenger

## 'Unsafe'



Viber



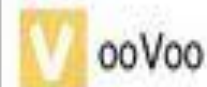
WhatsApp



LINE



Tango



ooVoo



Kakao Talk



WeChat



Nimbuzz



Hike



Chat ON



Kik



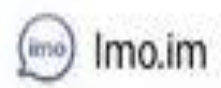
Voxer



GroupMe



MessageMe



Imo.im



TalkRay



IM+

# Questions?



# Connect



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