



# Have you been Hacked?

Smash Day 4





# **Reflections from the past week**

## Binary search

steps: 0

37

1	3	5	7	11	13	17	19	23	29	31	37	41	43	47	53	59
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
low								mid								high

## Sequential search

steps: 0

37

1	3	5	7	11	13	17	19	23	29	31	37	41	43	47	53	59
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

www.penjee.com



FACE RECOGNITION IS UNDER WAY...





A rectangular gift wrapped in dark teal paper with a light grey ribbon tied in a bow. The gift is placed on a rustic wooden surface. The ribbon has long, flowing tails that extend across the bottom of the frame.

# **Technology, A Blessing?**



# Technology, A Threat?

Think in terms of :

- Web Search
- Facial Recognition Software
- Popularity Algorithm

**Thoughts?**





The background of the image is a dark, textured surface covered with numerous 3D question marks. These question marks are rendered in various shades of gray and blue, creating a sense of depth and repetition. They are scattered across the entire frame, with some appearing more prominent than others due to their position and lighting.

**A few  
questions to  
ponder over...**

**Bloomberg  
Businessweek**

December 16, 2013

# Alexa, What's Privacy?

"Smart" devices  
are listening—and  
so are humans



*Ethical Question 1: Is your Smartphone secretly listening to you?*

*How much information collected by your Google search or YouTube watch history is being used to deanonymize you without your consent?*

*Is it being used to target certain issues and influence you?*

I'm not sure I understand





*Ethical Question 2: Given the obvious bias that exists in algorithmic designs for minorities, how safe is metaverse?*





The background is a blurred image of a document. On the left, there is a line graph with a solid line and a dotted line. The solid line starts at a point labeled '2.5' and trends upwards. Below the graph, there is a large, handwritten signature in blue ink. The overall image has a blue and white color scheme with a soft, out-of-focus effect.

**Why is it  
important to  
protect data?**



YOU HAVE BEEN  
HACKED !

+Dunken K Bliths





## Malware and Ransomware Attacks

Malware is the general term for any program that is designed to damage, disrupt, or hack a device. **Viruses and ransomware are malware.**

Ransomware are malicious programs that block access to your device until you pay a ransom fee to its creator. It is often very difficult and expensive to remove



# Ooops, your files have been encrypted!

English

## What Happened to My Computer?

Your important files are encrypted.

Many of your documents, photos, videos, databases and other files are no longer accessible because they have been encrypted. Maybe you are busy looking for a way to recover your files, but do not waste your time. Nobody can recover your files without our decryption service.

## Can I Recover My Files?

Sure. We guarantee that you can recover all your files safely and easily. But you have not so enough time.

You can decrypt some of your files for free. Try now by clicking <Decrypt>.

But if you want to decrypt all your files, you need to pay.

You only have 3 days to submit the payment. After that the price will be doubled.

Also, if you don't pay in 7 days, you won't be able to recover your files forever.

We will have free events for users who are so poor that they couldn't pay in 6 months.

## How Do I Pay?

Payment is accepted in Bitcoin only. For more information, click <About bitcoin>.

Please check the current price of Bitcoin and buy some bitcoins. For more information, click <How to buy bitcoins>.

And send the correct amount to the address specified in this window.

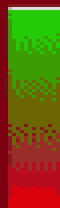
After your payment, click <Check Payment>. Best time to check: 9:00am - 11:00am GMT from Monday to Friday

Payment will be raised on

5/18/2017 13:41:03

Time Left

02:23:59:24



Your files will be lost on

5/22/2017 13:41:03

Time Left

06:23:59:24



[About bitcoin](#)

[How to buy bitcoins?](#)

[Contact Us](#)



Send \$300 worth of bitcoin to this address:

12t9YDPgwueZ9NyMgw519p7AA8isjr6SMw

Copy

Check Payment

Decrypt



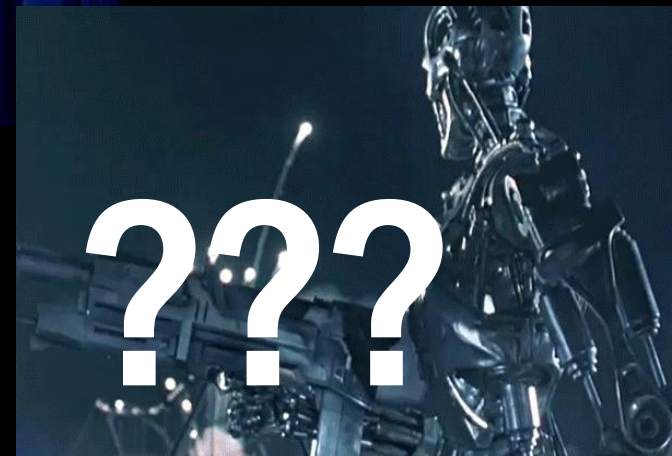


The **WannaCry ransomware attack** was a worldwide cyberattack in May 2017 by the WannaCry ransomware cryptoworm, which targeted computers running the Microsoft Windows operating system by encrypting data and demanding ransom payments in the Bitcoin cryptocurrency

“WannaCry scale and NotPettya ferocity? The disaster management capabilities of the nation are not prepared for it.”

Russia was charged with conducting the most disruptive and destructive series of computer attacks ever attributed to a single group, including unleashing the NotPettya malware - even though it was designed to infiltrate computer systems via a popular piece of Ukrainian accounting software, the virus spread far beyond the borders of Ukraine, causing an incredible amount and variety of damage upto \$10B.

# Evolution of Wars – A TimeLine?





About 700,000 results (0.64 seconds)

According to the lawsuit, Kidd wasn't informed Springhill was struggling with a cyberattack when she went in to deliver her daughter, and doctors and nurses then missed a number of key tests that would have shown that **the umbilical cord was wrapped around the baby's neck, leading to brain damage and death nine months ...** Sep 30, 2021

<https://www.nbcnews.com/news/baby-died-due-ranso...>

Baby died because of ransomware attack on hospital, suit says ✓

*Ethical Question 3: Why brand these attacks as "war"?*

*How many of these cyberattacks are purely monetary or political?*

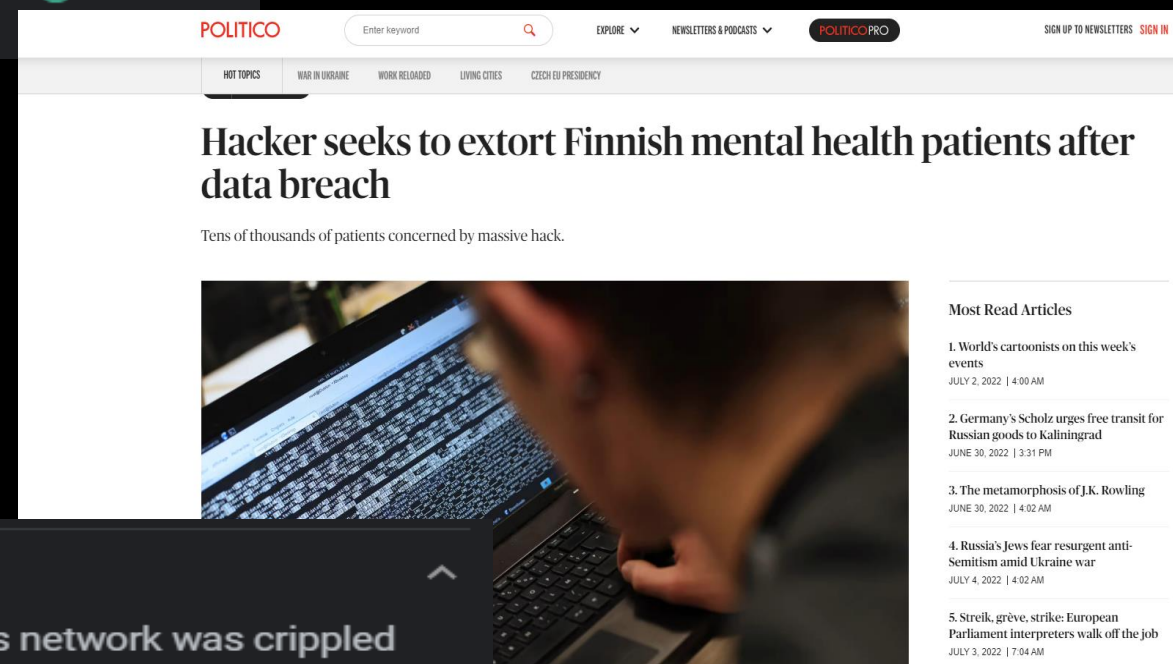
*Attackers know who has been hit – People are not collateral damage - threatening lives?*

How long did it take Maersk to recover from NotPetya?

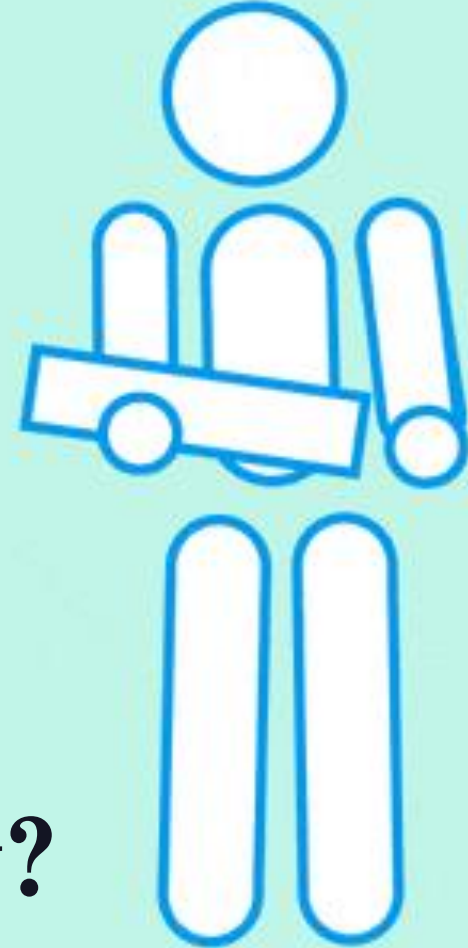
The impact was as immediate as the recovery was slow: Maersk's network was crippled within seven minutes, most of the damage was done within an hour and it took **nine days** to restore its Active Directory system. Dec 9, 2019

<https://portswigger.net/daily-swig/when-the-screens-...>

When the screens went black: How NotPetya taught Maersk to ... ✓



**What is Cybersecurity?**



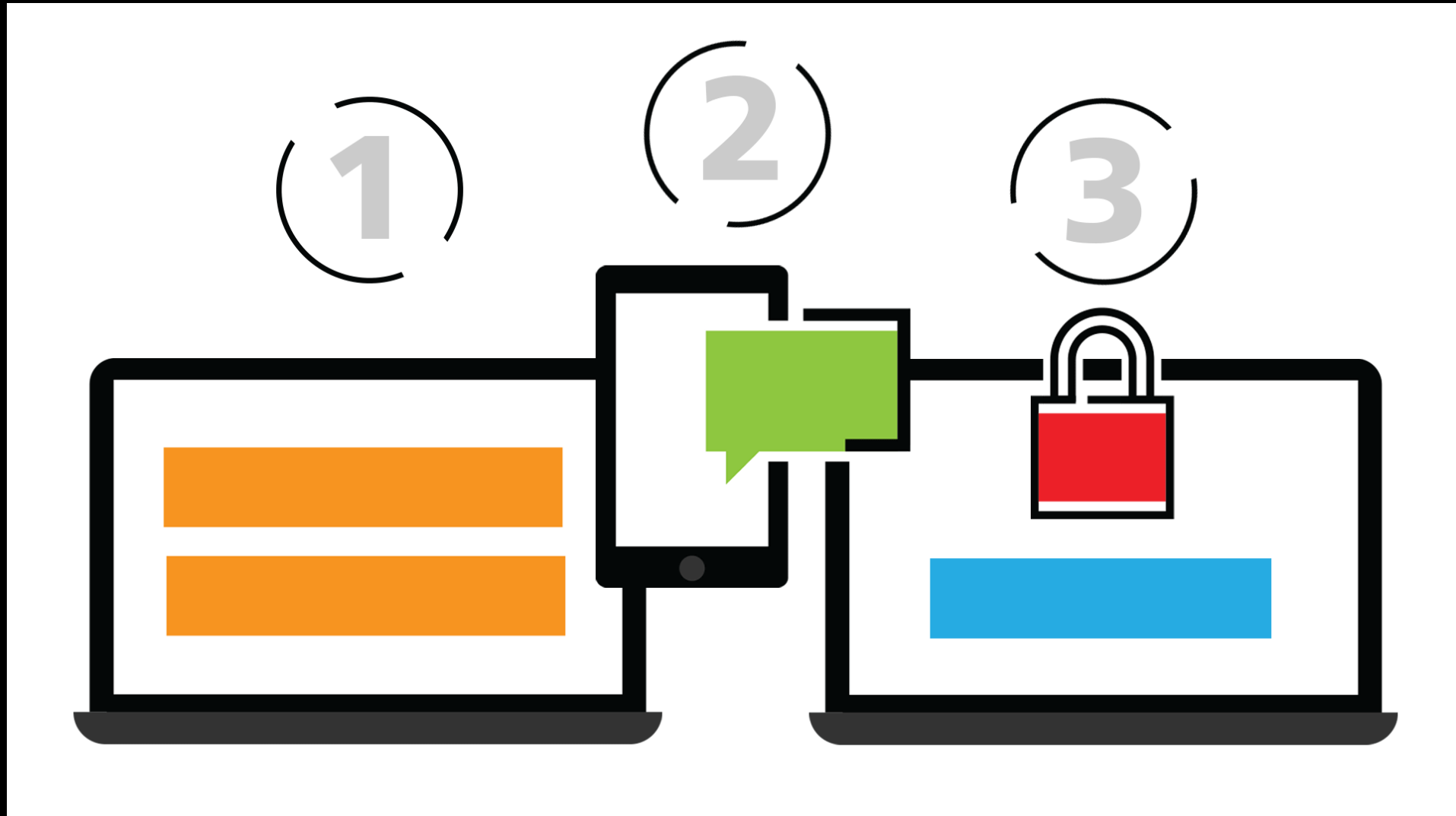


Cybersecurity is the practice of deploying people, policies, processes and technologies to protect organizations, their critical systems and sensitive information from digital attacks



Access to user data is the biggest boon and bane of this century --- Passwords?

# What is 2 Factor Authentication?





Why is Password Strength important?

**Password** \*

  
**Password strength: Weak**

More Importantly, why go google suggested passwords look like this?

Use suggested password	-Eq\$Tj5i89NiJ7#
Chrome will save this password in your Google Account. You won't have to remember it.	

Let's say we have a password of length 4 with only digits 0-9.

A hacker can generate 10000 passwords in 1 minute.



For a longer password, say length 10, there would be  $10^{10}$  possible passwords.

It would take him  $10^6$  minutes (nearly 1.9 years!)

• If you had Uppercase, Lowercase and digits, it would take him even longer to hack into the system.

- - 26 lowercase characters
- - 26 uppercase characters
- - 10 digits

• Total –  $10 + 26 + 26 = 62$  possible answers for one character of the password.

For a password of say length 12  
-  $62^{12}$  possible passwords!

# Time To CODE!!!

Task – Beware! The hackers are trying to get into your SNAPCHAT account!!! We must prevent this!

Write a program to check if the password generated is valid!

Checking criteria for password :

- Atleast 1 uppercase character
- Atleast 1 lowercase character
- Atleast 1 digit 0-9
- Atleast 1 special character
- Atleast length of size 8





<https://bit.ly/3AVrYGg>



A photograph of a theater interior. In the foreground, the back of a red upholstered seat is visible, featuring a small oval badge with the number '49'. The seat is part of a larger set of rows of similar seats. In the background, a staircase with a railing is illuminated by a series of warm, yellow lights, creating a bokeh effect. The overall atmosphere is warm and elegant.

# Hall of Fame



A group of six people, three men and three women, are standing in a row, smiling for a photo. They are in front of a blue wall decorated with a pattern of white dots and numerous small posters or portraits of various people. The person on the far left is a Black man with a beard, wearing a light pink button-down shirt and blue trousers. Next to him is a Black woman with long braids, wearing a white crop top, a light blue button-down shirt, and light blue jeans. In the center is an Asian man with short dark hair, wearing a black t-shirt and grey shorts. To his right is a woman with long dark hair, wearing a black top and a red patterned skirt. Next is a woman with short blonde hair, wearing a red sleeveless button-down shirt and olive green pants. On the far right is a Black woman with short hair, wearing a black t-shirt with the text "SMASH x NORTHEASTERN" and light grey pants. The text "Goodbye, team!" is overlaid in large white letters across the middle of the group.

**Goodbye, team!**