



Literasi Digital Mendukung Kampus Merdeka (Keamanan & Keterampilan)

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Perlunya

LITERASI BARU

Menghadapi Era Revolusi Industri 4.0

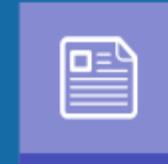
Agar lulusan bisa kompetitif, **kurikulum perlu orientasi baru**, sebab adanya Era Revolusi Industri 4.0, tidak hanya cukup **Literasi Lama (membaca, menulis, & matematika)** sebagai modal dasar untuk berkiprah di masyarakat. ”

Bagaimana caranya meyakinkan mahasiswa bahwa literasi baru ini akan membuat mereka kompetitif ?

Literasi Baru:



(Aoun, MIT, 2017)



Literasi Data

Kemampuan untuk membaca, analisis, dan menggunakan informasi (**Big Data**) di dunia digital.



Literasi Teknologi

Memahami cara kerja mesin, aplikasi teknologi (**Coding, Artificial Intelligence, & Engineering Principles**).



Literasi Manusia

Humanities, Komunikasi, & Desain.



Digital Skills

Kemampuan individu dalam mengetahui, memahami, dan menggunakan perangkat keras dan piranti lunak TIK serta sistem operasi digital dalam kehidupan sehari-hari



Digital Safety

Kemampuan individu dalam mengenali, mempolakan, menerapkan, menganalisis, menimbang, dan meningkatkan kesadaran keamanan digital dalam kehidupan sehari-hari



Digital Culture

Kemampuan individu dalam membaca, menguraikan, membiasakan, memeriksa, dan membangun wawasan kebangsaan, nilai Pancasila dan Bhinneka Tunggal Ika



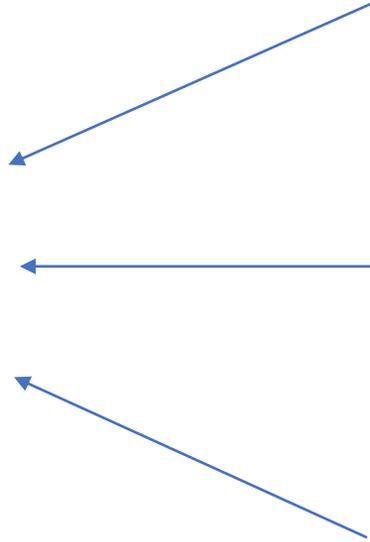
Digital Ethics

Kemampuan individu dalam menyadari, mencontohkan, menyesuaikan diri, merasionalkan, mempertimbangkan, dan mengembangkan tata kelola etika digital (*netiquette*)



e-Deposit

SERAH SIMPAN KARYA CETAK KARYA REKAM



Pengukuran Riset
Hub Penelitian

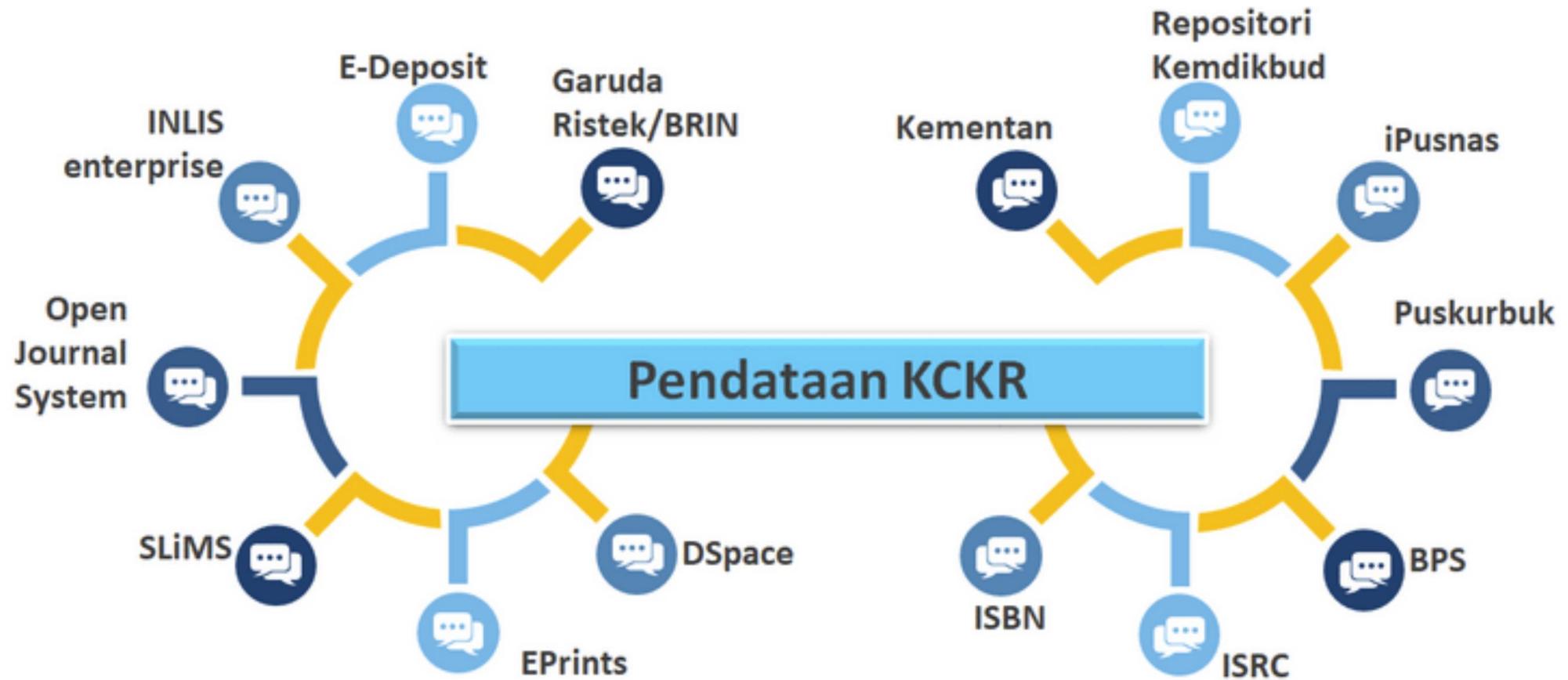


Project Akhir Mahasiswa

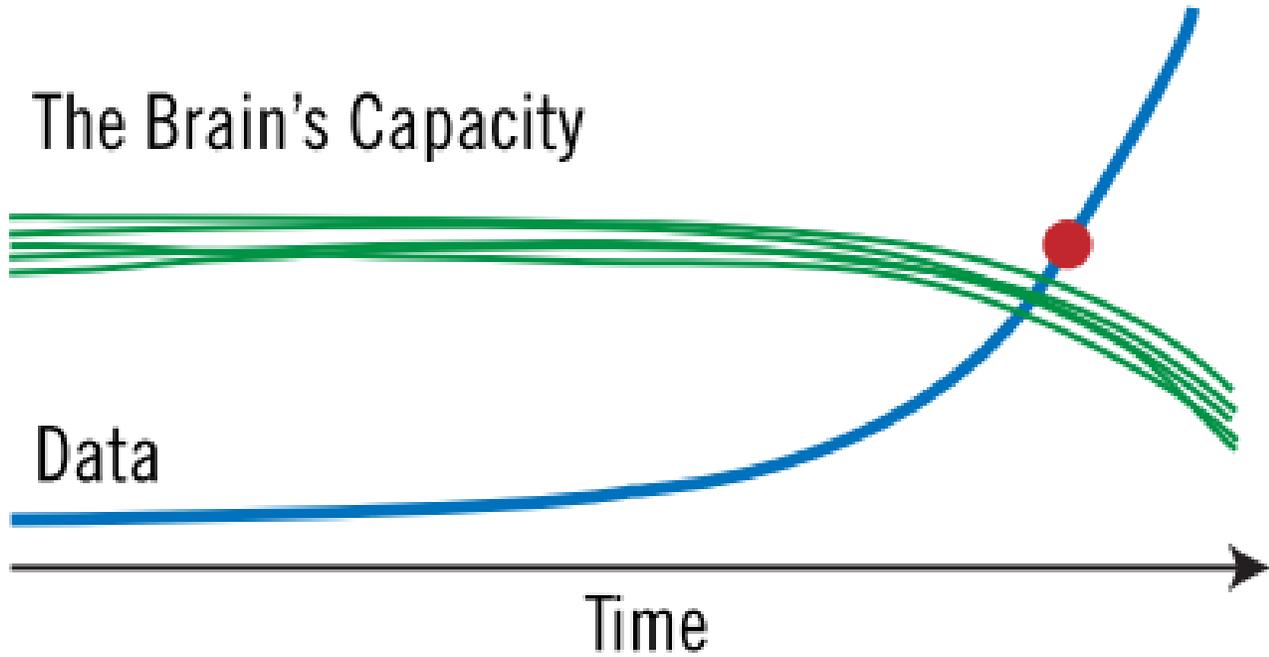


Jurnal Nasional
Prosiding Nasional

Interoperabilitas



The Brain's Capacity



Data

Time

KEITH FITZ-GERALD'S
TOTAL Wealth

UNSTOPPABLE TREND REPORT

HOW TO TAP INTO
A \$17 BILLION TREND
FOR JUST \$1.00 A SHARE



Unstoppable Global Trends

Digital Disrupsi

Digital Revolution

Cybersecurity: Safeguarding the data revolution

Fintech: Disrupting financial services

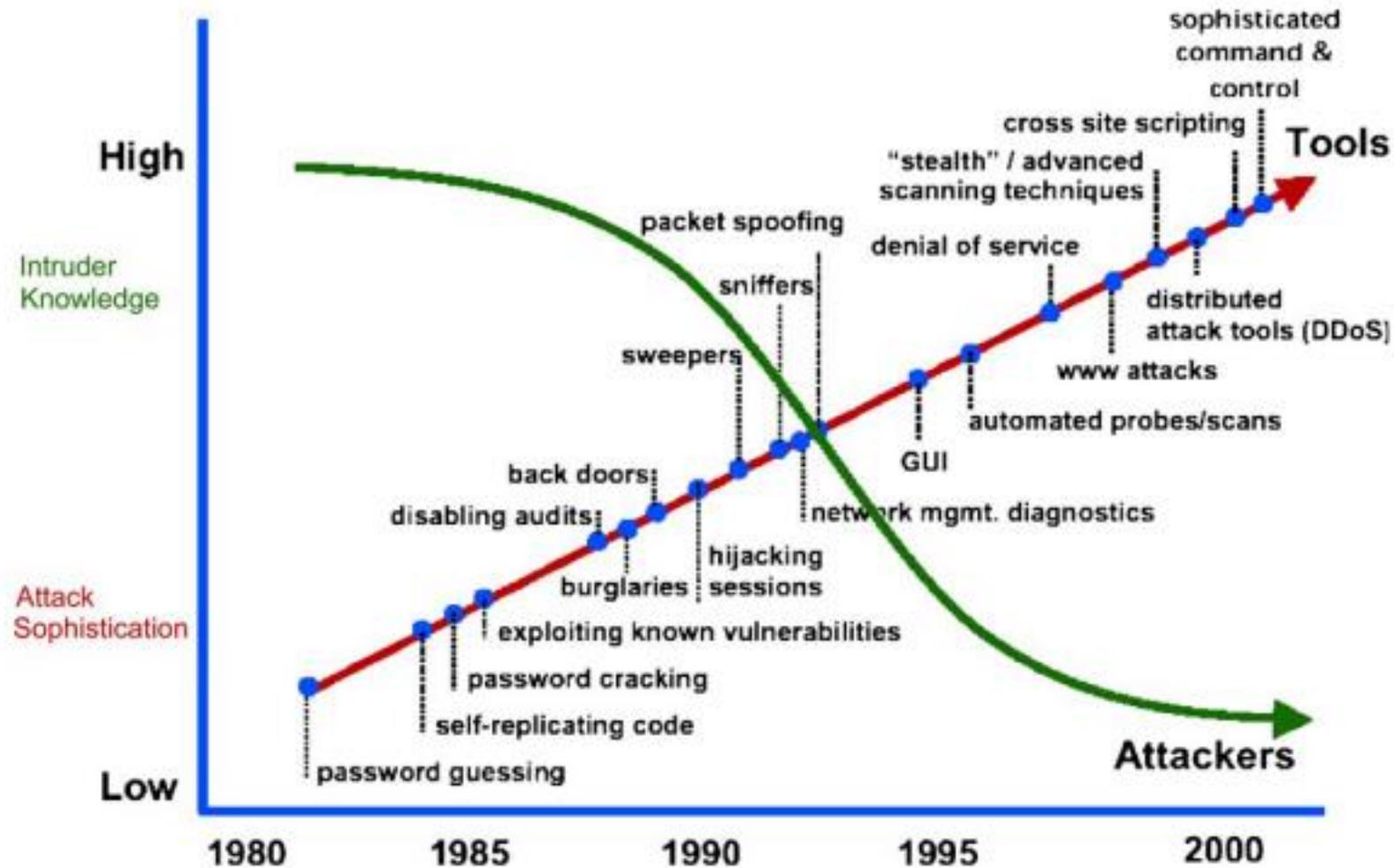
Blockchain

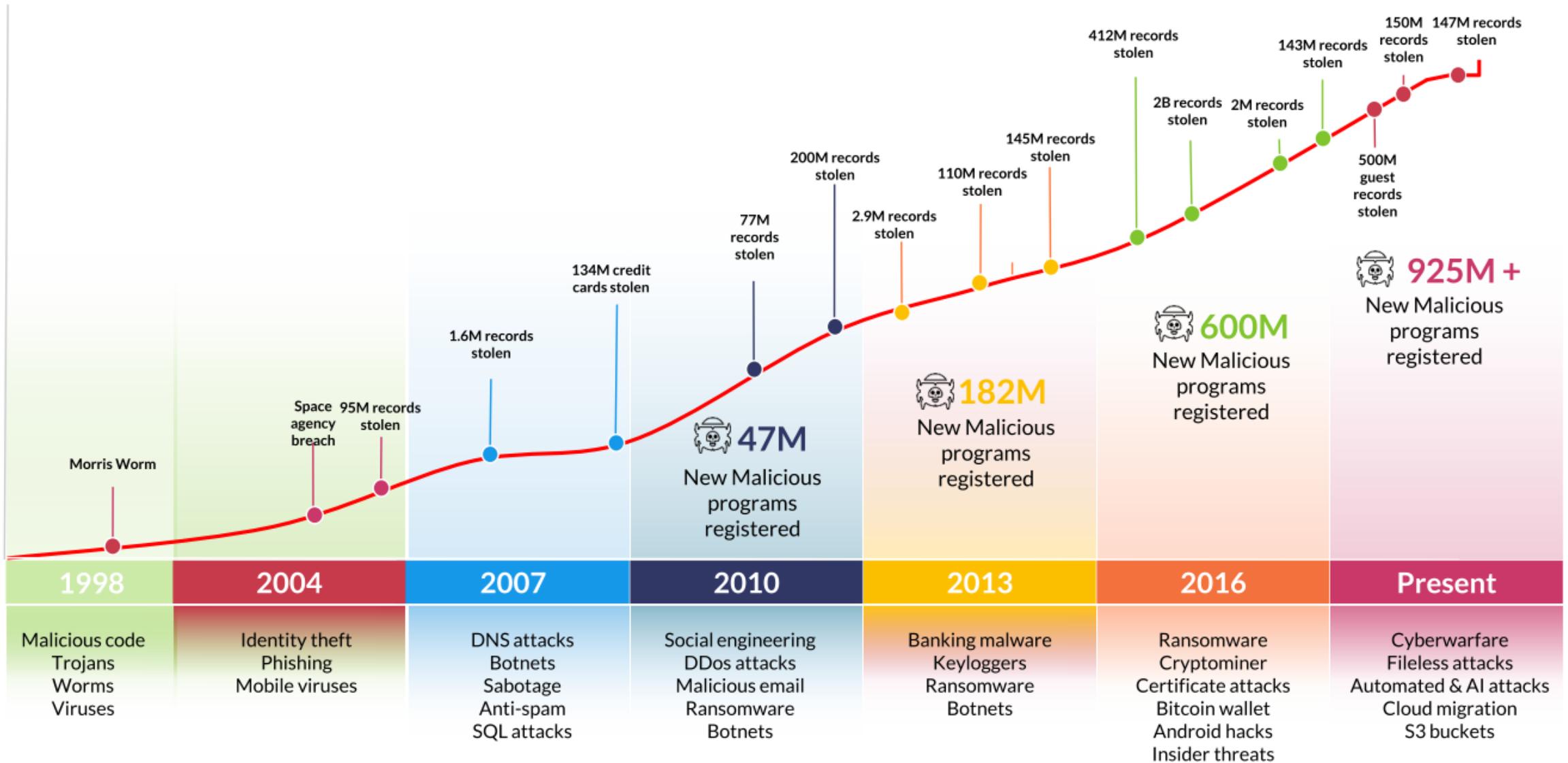
Increasing Longevity (Umur Panjang)

New Wellness Approach

The Future of Energy

Threats Evolution



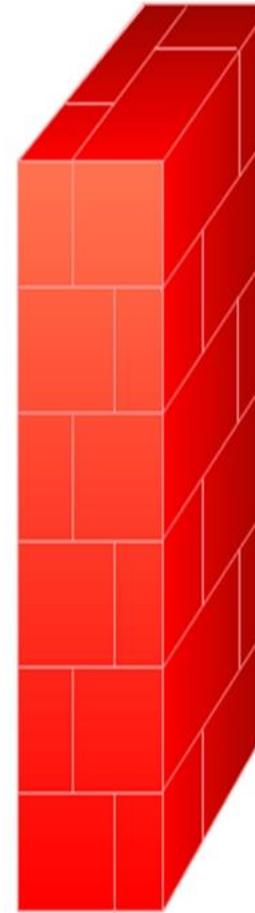
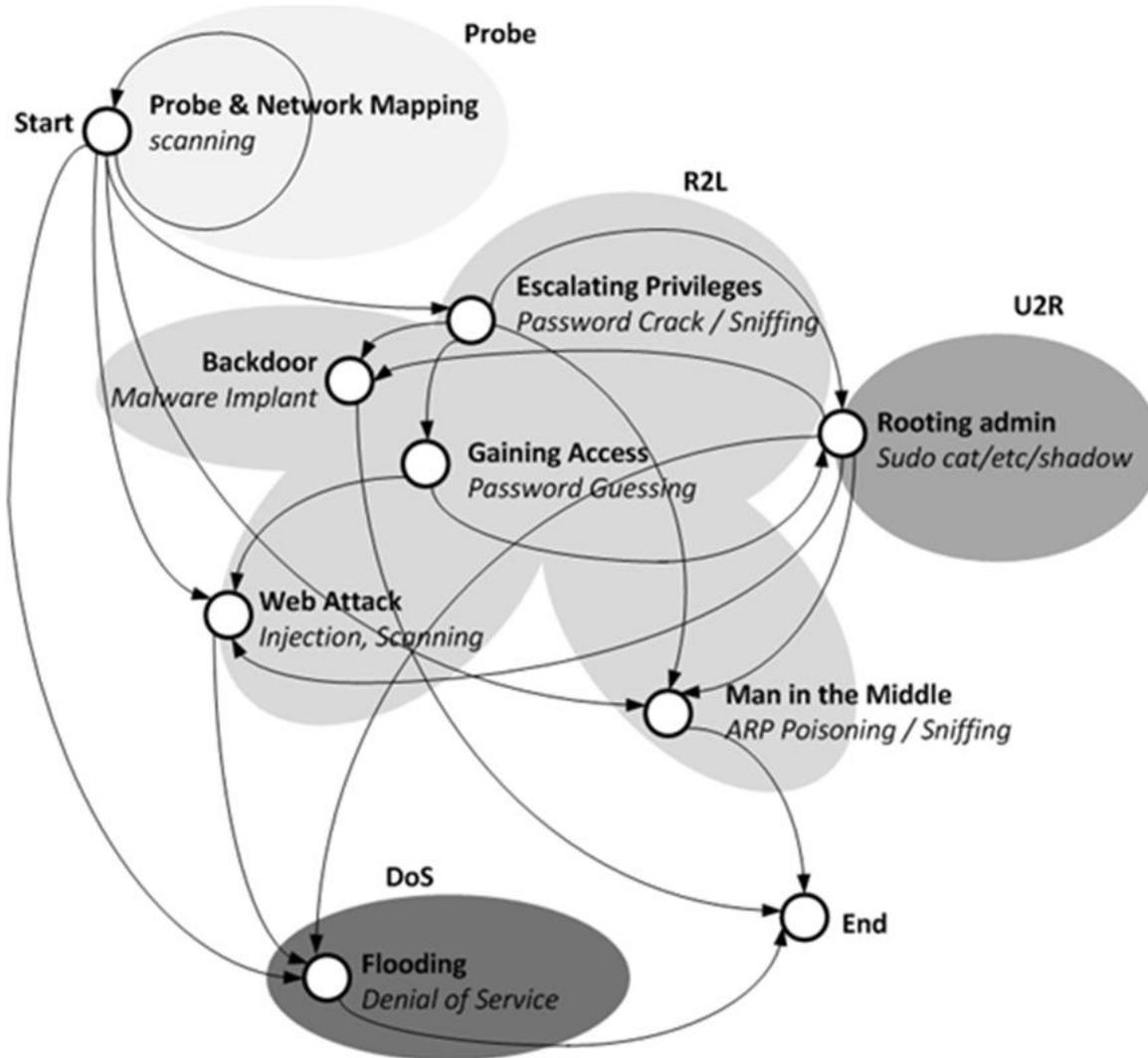




Outsider Attacks



Insider Attacks



Man in the middle attack

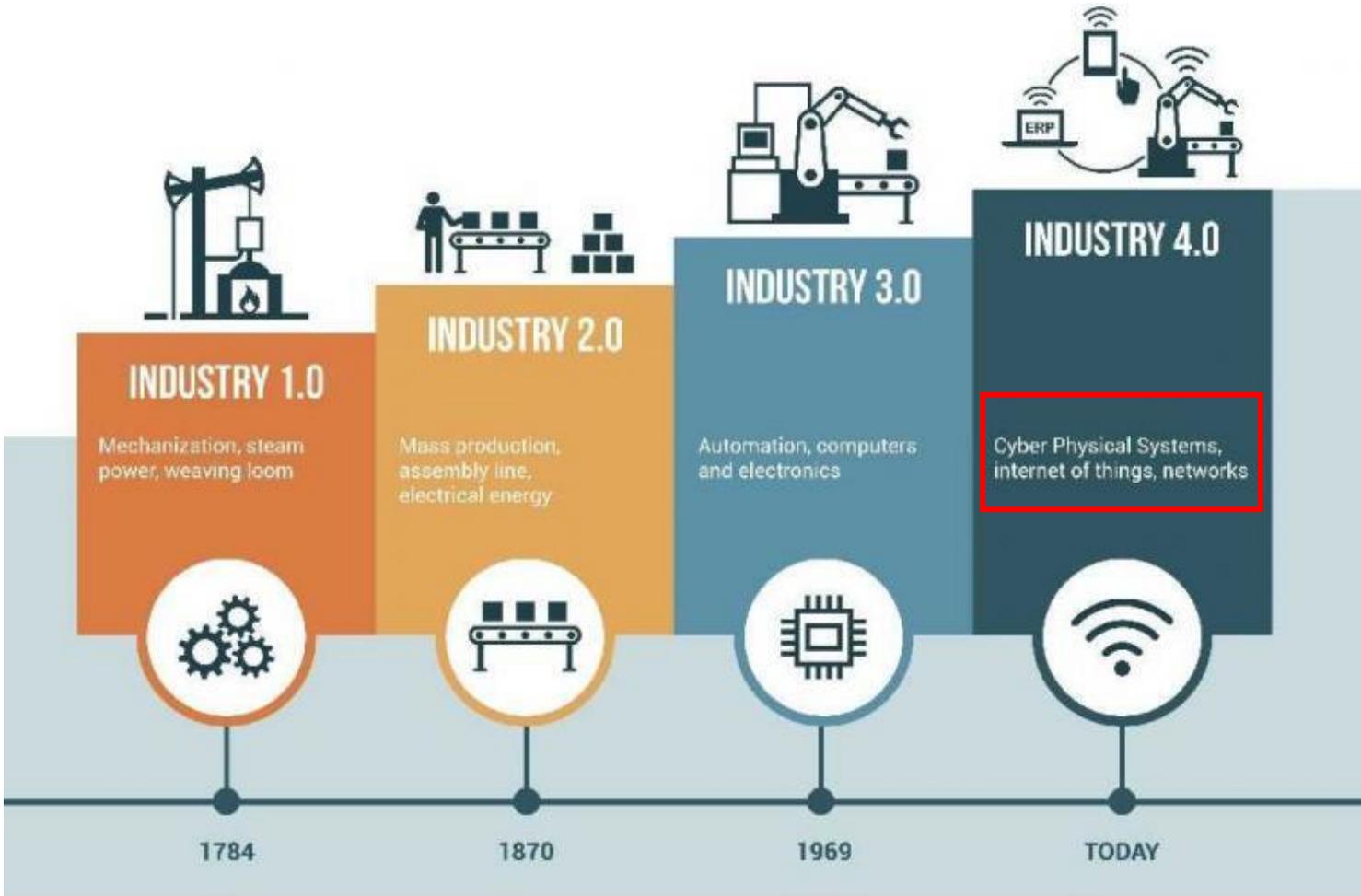
BYOD

Malware

Physical / Data Theft

Sabotage

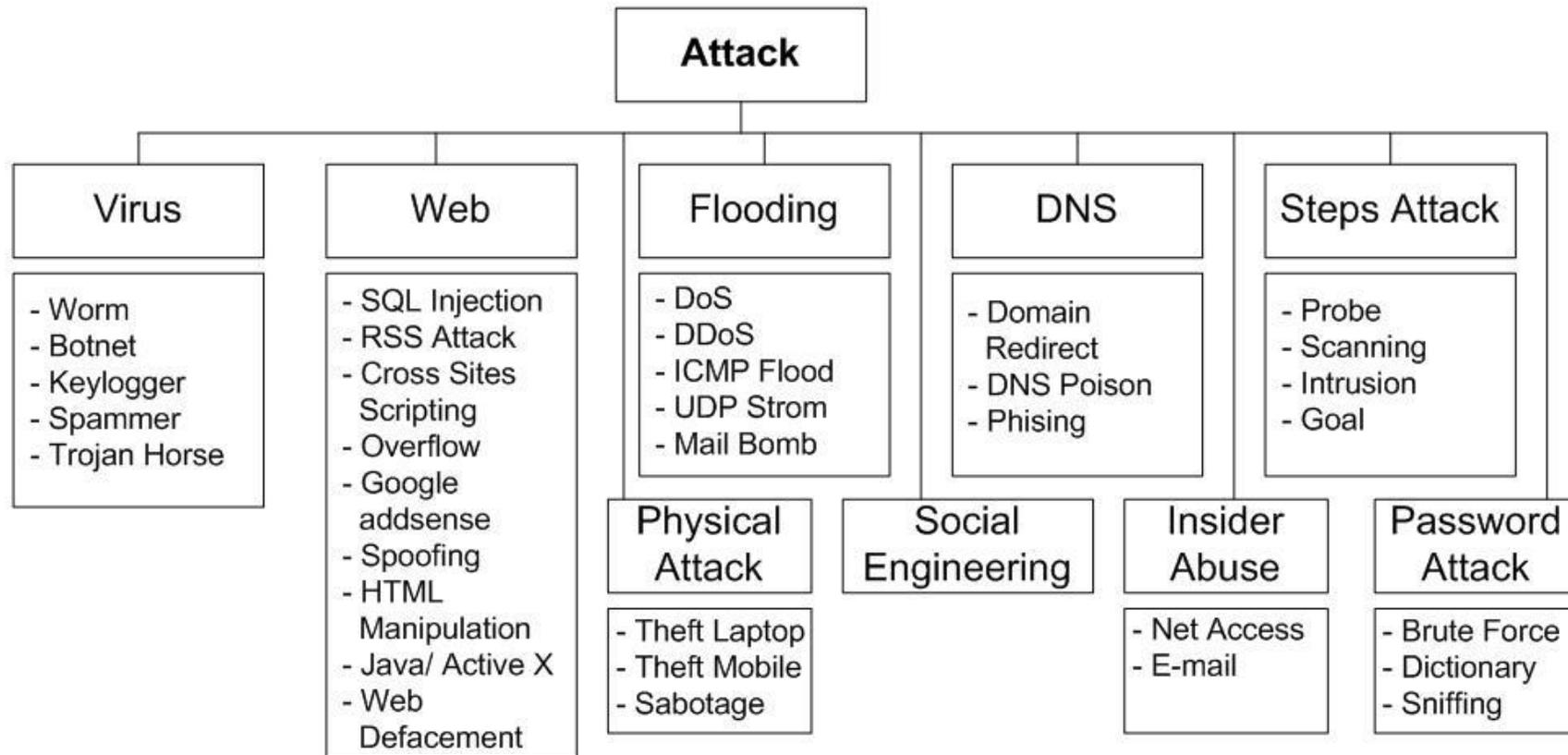
Behavior / awareness



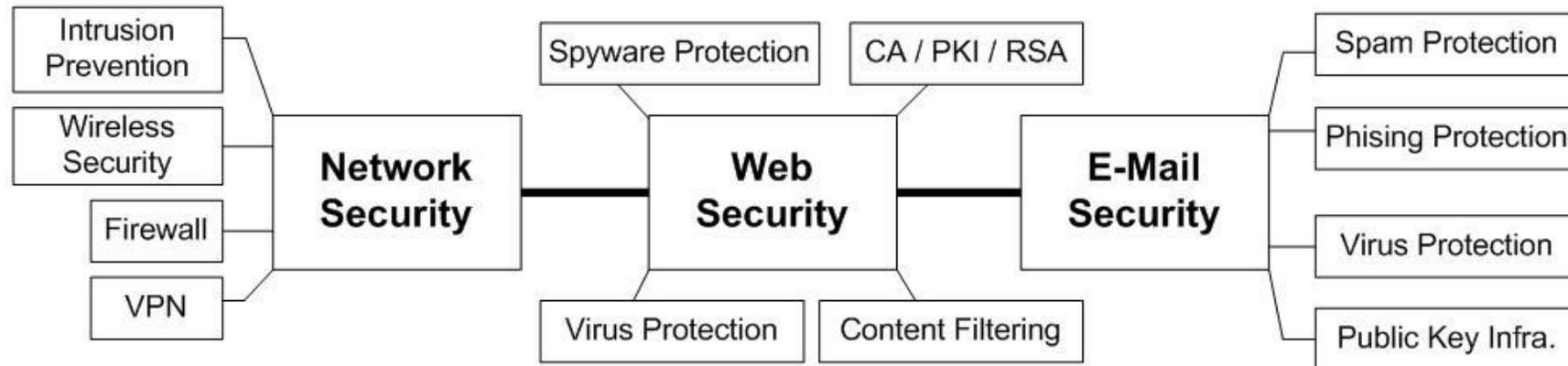
New challenges of **CPS security** (Alguliyev, 2018) :

- the rising number of IoT devices leads to an increasing vulnerability of such systems to **cyber-attacks** (for example, DDoS);
- security threats modeling;
- development of a formal approach to **CPS vulnerabilities** assessment;
- designing reliable and fault-tolerant architectures for processing of rapidly developing **cyber and physical threats**.

Attack

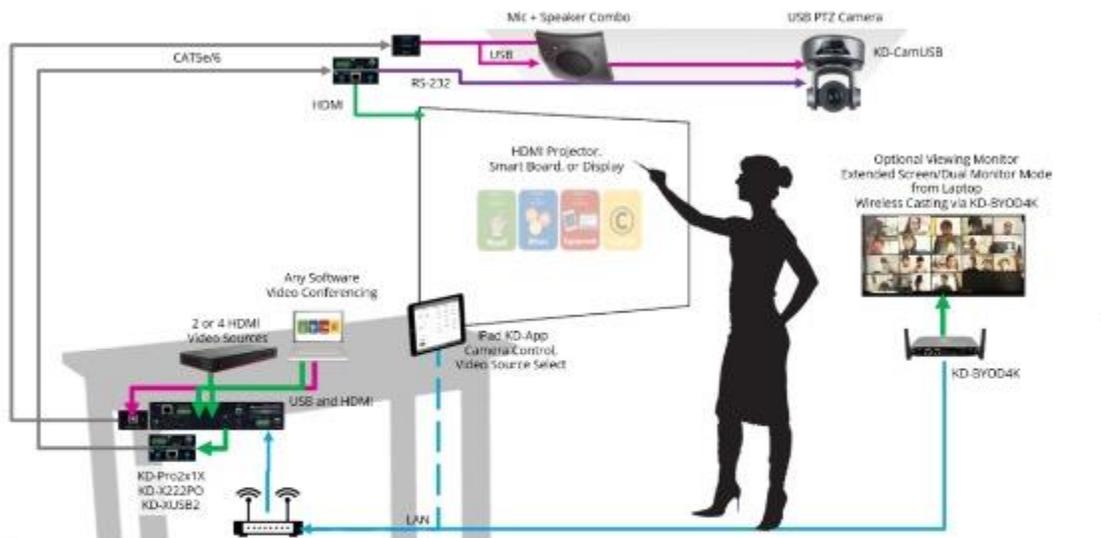


Vulnerability



Countermeasure

Topologi



Hybrid Classroom AV Technology

System Delivery: Konten dari laptop, tablet, maupun sumber video lokal dipresentasi secara real-time terdistribusi dengan audience yang hadir secara online, dan secara lokal, proses presentasi, mengajar terhubung dengan kamera, stereo speaker combo yang merekam audio

Perangkat Pendukung

1 Participant HD Display

Memberikan tampilan tatap muka secara virtual, seolah - olah seperti saling bertatap muka dengan para pembicara, atau pembicara dengan peserta/audience

2 Teacher Camera

Kamera yang menangkap, merekam aktivitas pembicara, pengajar dan akan diolah kedalam sistem streaming, sehingga terdistribusi ke para audience/peserta

3 Teacher Notebook & Tablet

Tampilan presentasi dari pengajar, pembicara yang terhubung dengan sistem jaringan yang terdistribusi dengan aplikasi sistem classroom platform,

4 Student Display

Tampilan pada aplikasi client yang terpasang pada desktop client atau melalui aplikasi web yang mudah digunakan.



5 Stereo Active Speaker Set

Tampilan pada aplikasi client yang terpasang pada desktop client atau melalui aplikasi web yang mudah digunakan.



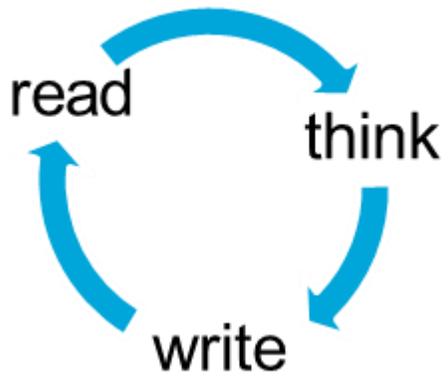
Simulasi Kebutuhan Harvard Class

Dampak : Platform Online



Dampak : Bagaimana Cara melihat kampus





- Perhatikan judul berita
- Cermati URL & sumber berita
- Periksa fakta (kritisi) dari literasi lain
- Cek keaslian photo

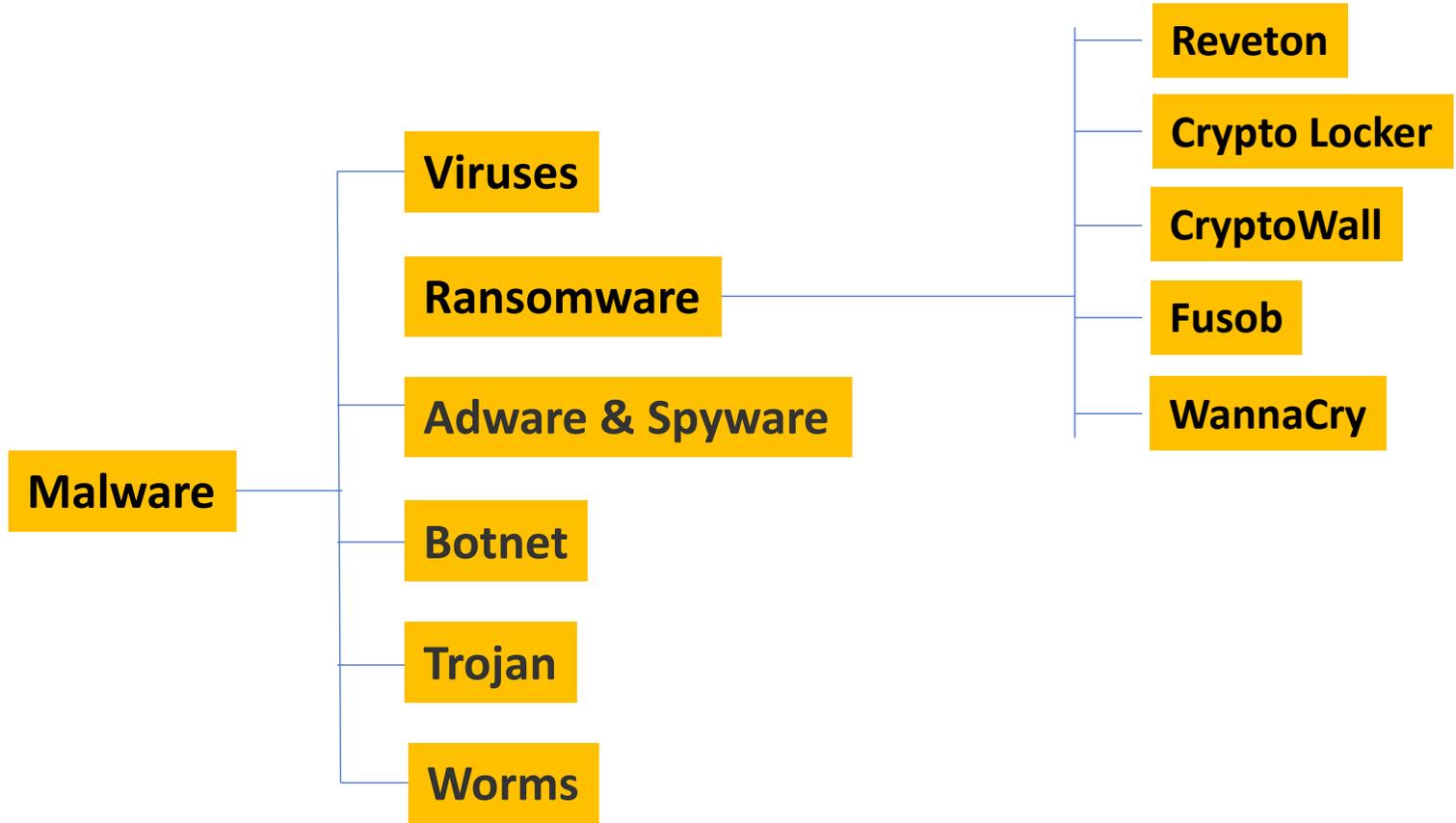
- Link Phising / warez / keygen via socmed
- Registrasi di untrusted web
- Download dari untrusted third party
- Update & patch

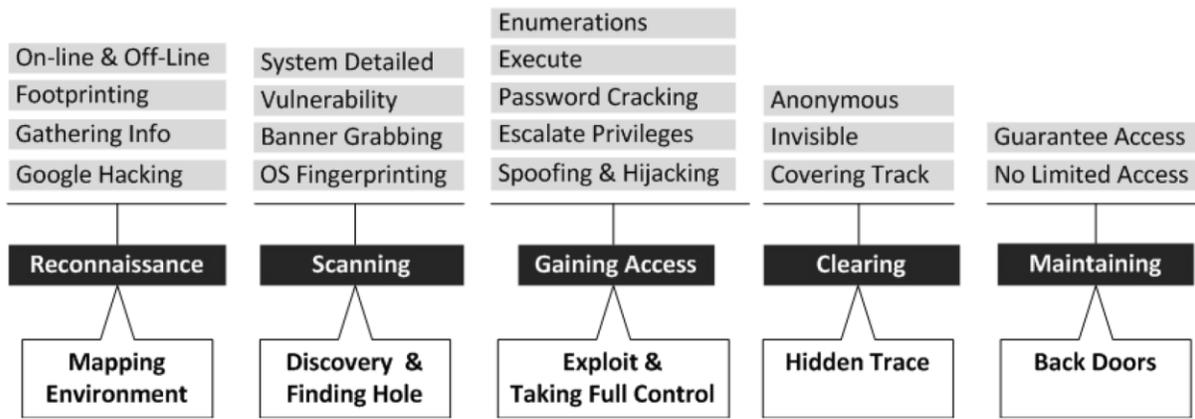
Personal



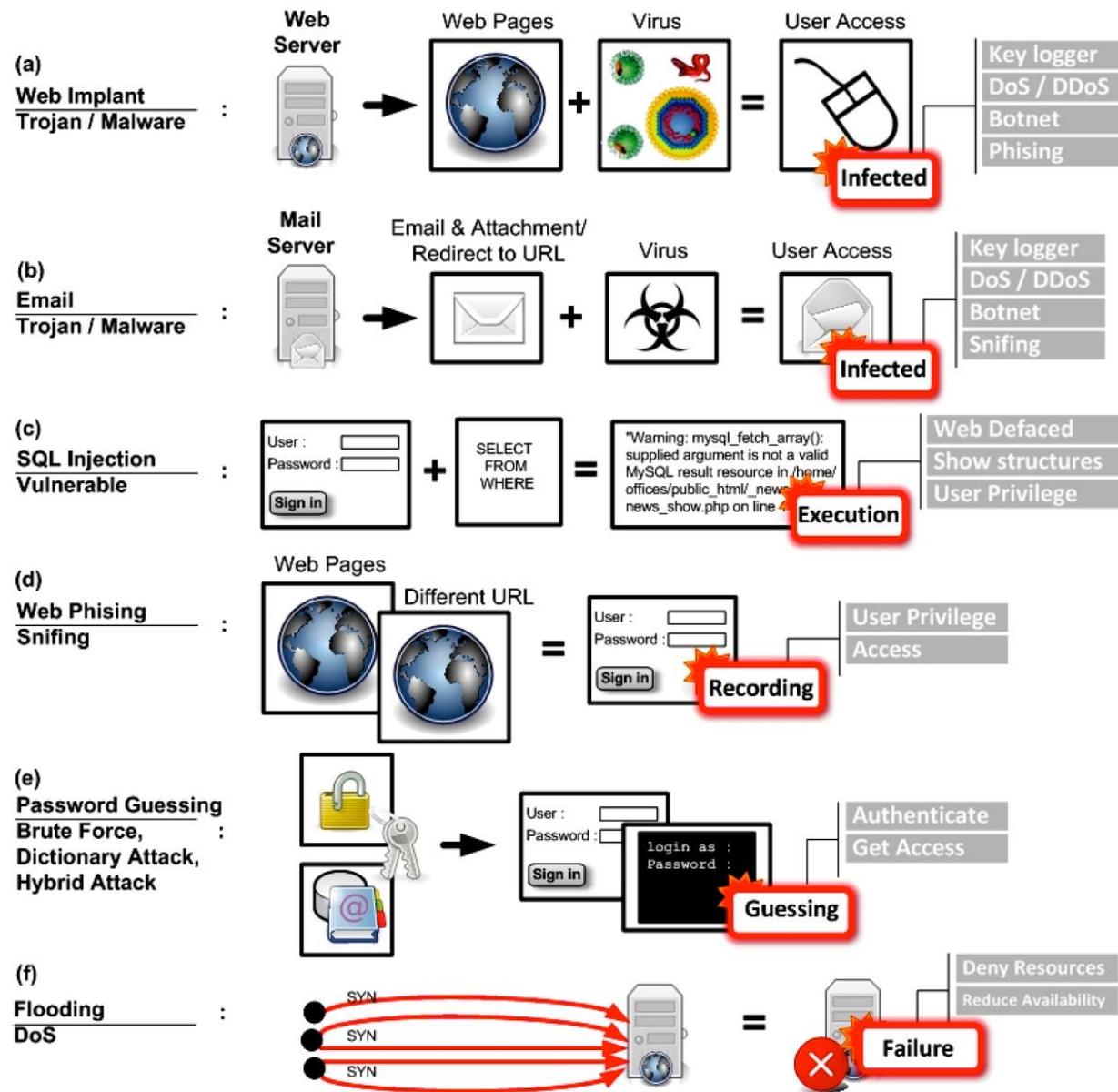
- ! INTERNET THREATS**
- ! HOAX** **! PHISHING**
- ! SCAM** **! SPAM**
- ! FAKE** **! VIRUS**
- ! MALWARE** **! SPYWARE**
- ! TROJAN**

Publik



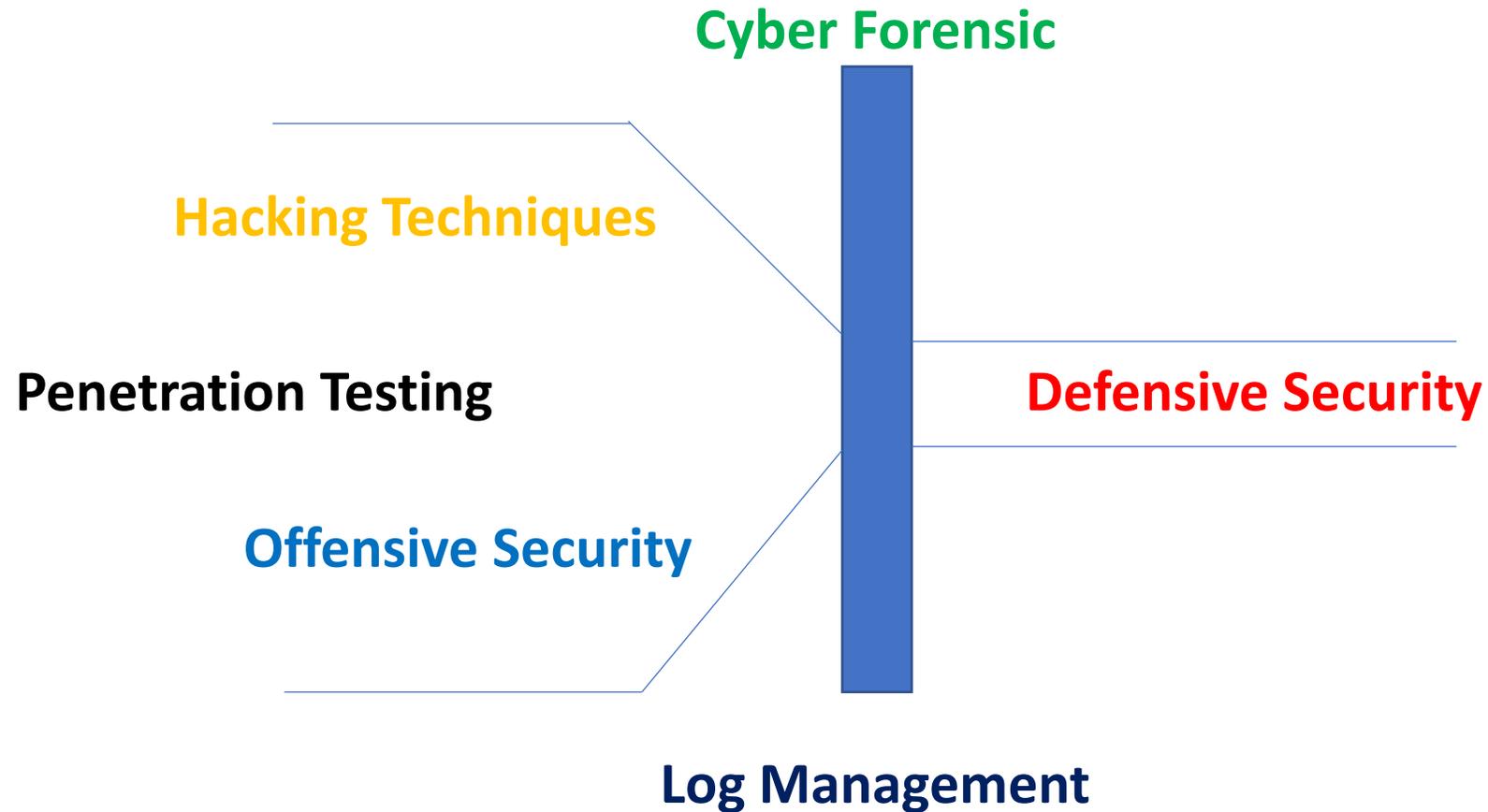


Steps of Hacking



Common variant of threats

Problem Riset di Keamanan Siber



10 COOLEST JOBS IN CYBERSECURITY

WHY THEY MAKE A DIFFERENCE AND HOW TO QUALIFY FOR THEM

Initial Jobs With Lots of Advancement Opportunities

1 DIGITAL FORENSIC ANALYST; INVESTIGATOR

"The thrill of the hunt! It's CSI for cyber geeks! You never encounter the same crime twice."

You are the detective in the world of cybersecurity – searching computers and networks for evidence in the wake of an incident.

2 PENETRATION TESTER FOR SYSTEMS AND NETWORKS

"Be a hacker, but do it legally and get paid a lot of money!"

You look for security vulnerabilities in target systems and networks to help enterprises improve their security.

3 APPLICATION PEN TESTER

"We desperately need more of this, application security has been such a black hole for so long."

You're a programming/security wizard; test applications before deployment so they don't present opportunities for intruders.

4 SECURITY OPERATIONS CENTER (SOC) ANALYST

"The fire ranger. Catch the initial blaze, or there goes the forest."

With an eye for detail and anomalies, you see things most others miss. Active prevention, active detection, active monitoring, active response.

5 CYBER DEFENDER; SECURITY ENGINEER (ENTERPRISE AND IC3)

"A leg up on your system admin and engineering buddies; talk shop with them but you are saving the world from the bad guys, too."

Implement/tune firewalls, IPS/IDS, patching, admin. rights, monitoring, application white listing, more

More Advanced Jobs – Open After A Few Years of Great Performance and Specialized Training

6 HUNTER; INCIDENT RESPONDER

"The secret agent of geekdom. You walk in and say 'OK I'll take it from here.'"

While everyone else is running around shouting "the system's dead," you have the sense and skills to rationally figure out why.

7 SECURITY ARCHITECT

"You get to design the solution, and not just for the perimeter."

You are very creative, on top of the game technically and the business; you design and build defensible systems and are part of a team of very adept people.

8 SECURITY SAVVY SOFTWARE DEVELOPER

"Coolest software developers"

You protect the whole dev team from making errors that will allow hackers to penetrate your organization and steal data. You are a programmer, but a programmer with special powers.

9 MALWARE ANALYST/ REVERSE ENGINEER

"The technical elite! Only go here if you have been called. You know who you are."

Look deep inside malicious software to understand the nature of the threat – how it got in, what flaw it exploited, what it is trying to do or has done.

10 TECHNICAL DIRECTOR/CISO

"Making decisions; making things happen. That's coolness."

Top of the tech ladder. Strategic thinking; hands-on involvement in solution design/deployment; holds the keys to tech infrastructure and ability to contribute and influence

1

CYBER FAST TRACK



"I loved CyberStart challenges – the coolest game I ever played."

"Taught me a lot; proved cyber-security wasn't too hard to learn."

"The most fun I have had learning."

DISCOVER IF YOU HAVE THE APPTITUDE CYBERSTART: THE GAME

- No need for cyber or IT experience
- More than 250 fun challenges protecting "real-world" bases
- Available completely online. Everything you need is in the on line Field Manual and hints.
- 19 U.S. Governors launched statewide programs for their students.

SEE MORE AT CYBERSTART.US

2

CATEGORY/TOPIC	MODULES
Computer Hardware/Data	6
Linux and Windows	7
Networking	6
Programming	6
Common Attacks & Security	10
Others (Kali, Google, etc)	11

"We now hire cybersecurity grads only if they have hands-on mastery of these foundations" (CISO, multi \$billion Silicon Valley tech leader)

MASTER THE FOUNDATIONS CYBERSTART: ESSENTIALS

- Core technologies: how they work and are attacked
- On-line, hands-on immersion training, in 46 modules
- Progress at your own pace. Quizzes and tests on each module
- National exam to reach silver or gold levels

3

EMPLOYER INTERVIEWS BEFORE ACCEPTANCE

GET SKILLS EMPLOYERS NEED AND A COOL JOB!

- Open & Veterans' & Women's Academies
- Three SANS immersion courses and three high value GIAC certifications
- 90% job placement in 6 months
- Also available as Certificate in Applied Cyber Security (CAC3) at SANS.edu and other accredited colleges and universities

SEE MORE AT USCYBERACADEMY.SANS.EDU

"Completing the SANS Vet Success Academy not only influenced my career plans, it defined them, opening doors that were inaccessible to me otherwise. In fact, being selected into the program was a "hitting the jackpot" moment for me."

Ed Russell, USAF (ret),
NTT Security



Terima Kasih