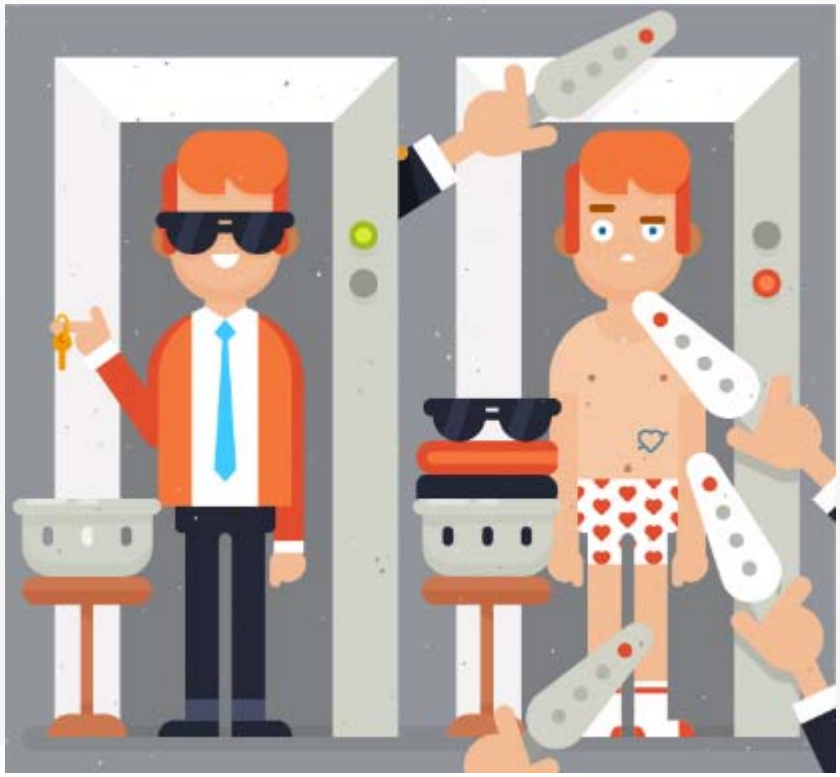
Setting up school-based information and incident handling procedures as well as roles and responsibility of stakeholders

KAM WAI MING, KAN KA HEI
Hong Kong Association for Computer Education
香港電腦教育學會 (HKACE)

Security VS Convenience



Students sue Miami-Dade school district after Social Security numbers posted online

BY KYRA GURNEY
KGURNEY@MIAMIHERALD.COM

JUNE 21, 2017 12:31 PM, UPDATED JUNE 21, 2017 12:34 PM

The Miami-Dade School Board has been sued by two students who say their Social Security numbers were posted on a district website.

Two former Miami-Dade students are suing the School Board after they found their Social Security numbers and test scores online along with the personal information of hundreds of other students.

The plaintiffs did a basic online search of their names and discovered that the information was posted on the Miami-Dade school district's website, according to the lawsuit.

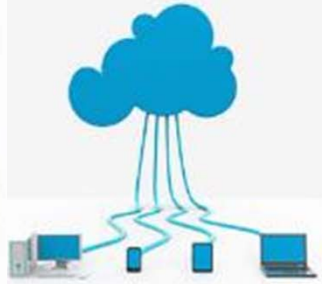
"The carelessness with how the district manages students' private information needs to be addressed," lawyer Stephanie Langer said in a statement. The students are asking for both monetary damages and an "overhaul" of school district policies on the protection of student information.

School Hackers Changed Grades And Tried To Get A Free Lunch

Lee Mathews Contributor ⓘ
Security
Observing, pondering, and writing about tech. Generally in that order.

School districts around the U.S. are busy wrapping up their academic years. Some are also wrapping up other business, like criminal investigations into breaches of the school's computer systems.

Screen capture: Lee Mathews/Forbes LEE MATHEWS/FORBES




5½
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10
16K
11
B5
A4
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8K
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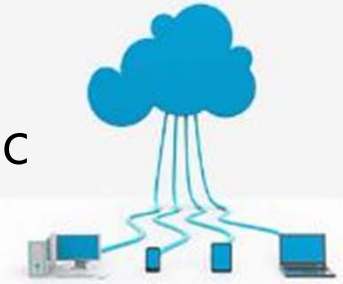
A3
Prohibited Copying
Do not copy any item for which copying is prohibited by national or local law. Copying the following items is generally prohibited:
•Bank notes •Passports •Checks •Bonds •Revenue stamps •Driver's licenses •Bank drafts •Stock certificates

Building a Cyber-Secure Culture

- Mindset
  - Given the prevalence of cyber attacks, we need to stay alert and prepared.
- Leadership
  - Set overall direction, establish priorities, maintain influence, and mitigate risks
  - School IT Team should model good personal security habits based on guidelines
- Training and Awareness
  - Awareness training programs build an understanding of risks and provide specific steps for mitigating them.



Managing and Maintaining Cyber-security in School

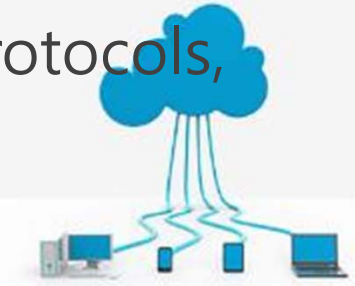
- Policies and Procedures
- Infrastructure and Technology
- Education and Training
- Standards and Inspection

Policies and Procedures

- Include cyber risks in the school risk management process
- Nominate right person responsible for cyber security issues
- Systematic and regular review of cyber security policies, at least on an annual basis
- Ensure policies and procedures that incorporate cyber security concerns are in place
- Establish a routine reporting process for cyber risks within the school
- Maintenance, Monitoring, and Analysis of audit logs
- Record cyber security incidents and actions taken

Infrastructure and Technology

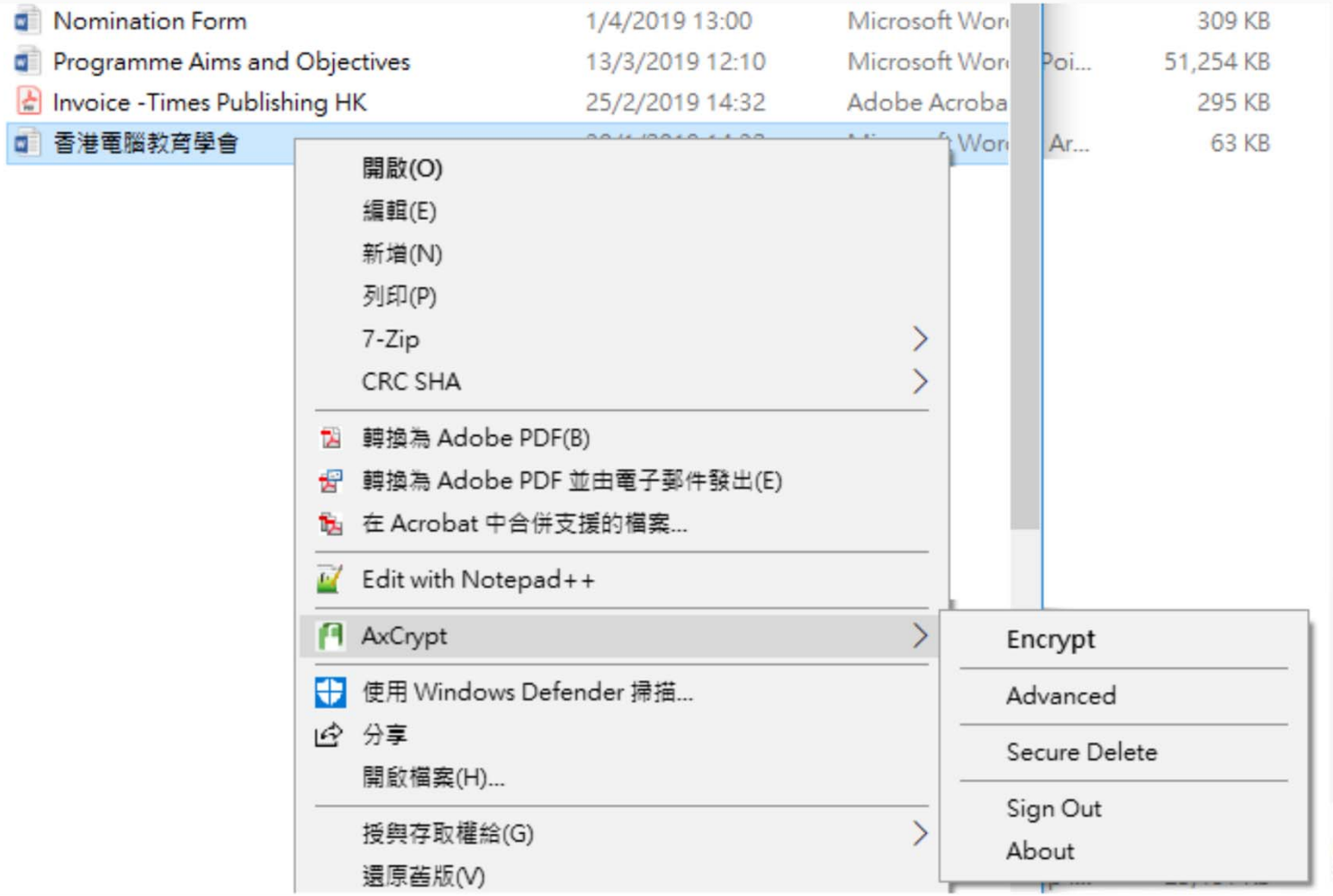
- Secure configurations for hardware and software on mobile devices, laptops, workstations, and servers
- Ensure that appropriate filtering and monitoring is in place.
- Inventory of Authorized and Unauthorized Devices
- Managing user privileges
- Malware prevention
- Patch system software and application software
- Data Recovery Capability
- Limitation and Control of Network Ports, Protocols, and Services
- Data Protection



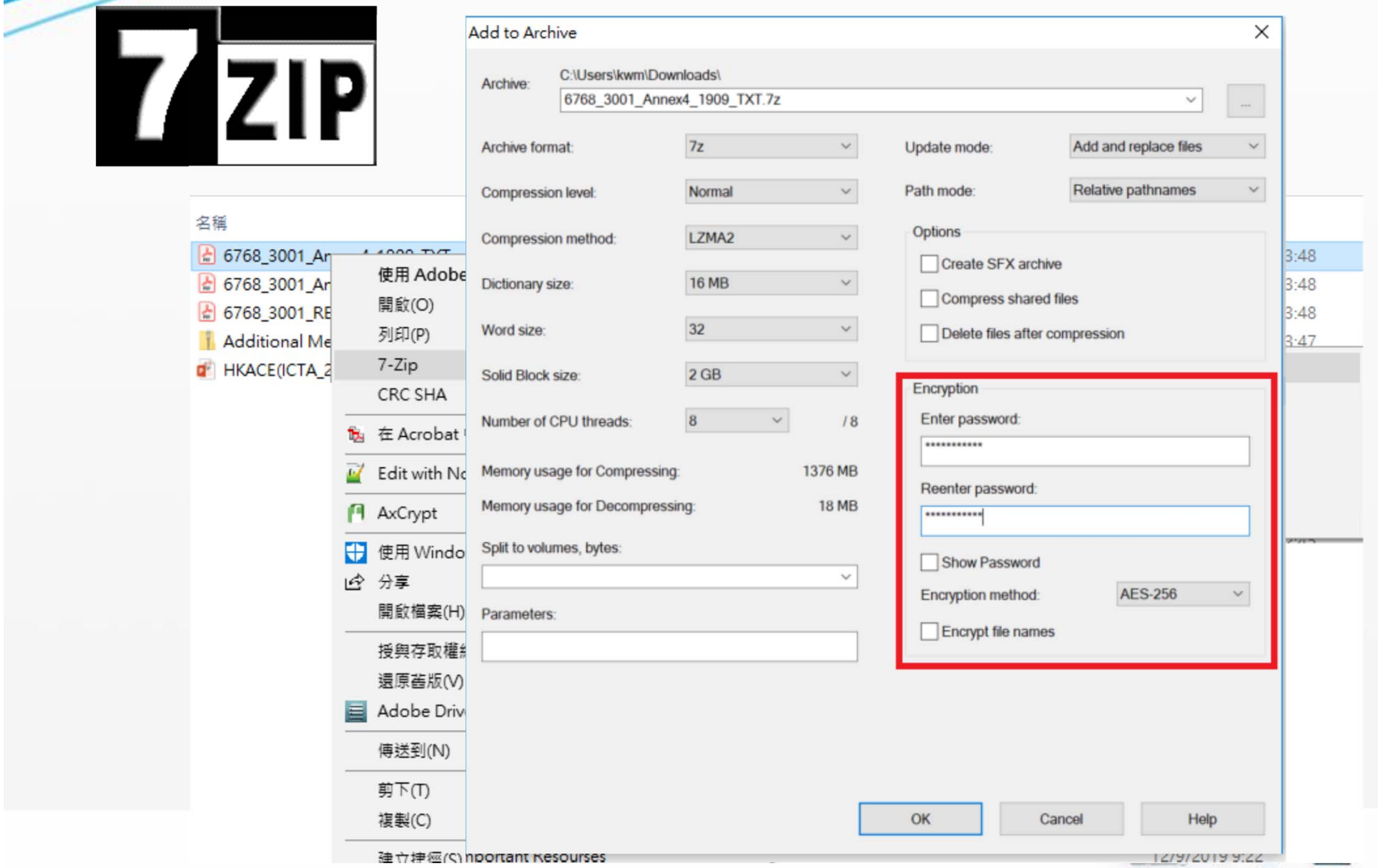
Tools for Encryption

AxCrypt

File security for you and your team



Tools for Encryption



Mobile device management
Device Enrollment Program (IOS) / Zero Touch Enrollment (Android)

- Force the device to enroll with SimpleMDM
- Select which SimpleMDM group devices should initially join
- Disable users ability to un-enroll from SimpleMDM manually
- Place device in supervised mode
  - Skip passcode setup, location services, restoring from backup, signing in to Apple ID and iCloud, Apple Pay setup

Education and Training

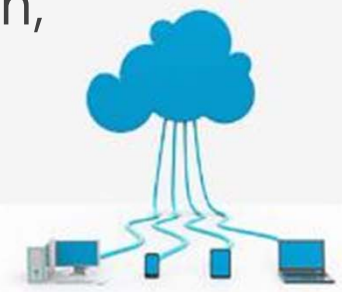
- Ensure the whole school community is aware of what is appropriate online behaviour and understand the sanctions for misuse.

- For teachers :

  Implement regular training for all members of staff

- For TSS :

  Refresh knowledge and skill at regular intervals to enable them to keep up-to-date with current research, legislation and trends



Education and Training

- For students :

  - Ensure that appropriate cyber security education is embedded throughout the curriculum; promoting the responsible use of technology and empowering students to keep themselves and others safe online

  - Actively engage with events to promote positive online behavior

- For parents :

  Ensure that online safety is promoted to parents through a variety of channels and approaches

HKACE 舉辦學生獎勵計劃

https://www.hkace.org.hk/

HKACE 支持活動：新媒體素養

http://media

HKACE 支持活動：網絡安全比賽

比賽目的：

- 提倡和推動網絡安全教育，提高青少年對網絡安全的興趣，培育**21**世紀所需要的網絡安全人才。
- 鼓勵及嘉許積極推動網絡安全教育的學校、老師及學生團體。

比賽形式：

比賽採用網絡攻防形式進行，參賽者將按照題目指示以不同技巧找出目標電腦系統的保安漏洞，例如:枚舉(Enumeration)、掃瞄(Scanning)和提權 (Gaining Access)

賽前培訓：19年11月23日(六)及29日(五) 16:00 - 18:30
比賽日期：19年12月7日(六) 10:00 – 13:00
地點： IVE(柴灣) 教學樓3樓316室 網絡安全中心

截止報名日期：
19年10月31日(四)

網上報名：
http://bit.ly/2ZugJy8


共建安全網絡2019
網絡攻擊花樣多
保護數據靠你我
研討會暨海報設計比賽頒獎典禮
https://www.cybersecurity.hk/campaign.php
2019年9月20日（星期五）
上午9時至下午5時30分
九龍塘達之路78號
生產力大樓四樓會議廳
登入名稱
詳情及報名方法：
www.cybersecurity.hk/campaign.php
2788 5617
event@hkcert.org
主辦機構
GovCERT.HK
支持機構
教育局
Deloitte.

HKACE 支持活動：

Information Security Summit - Over the Horizon Cyber Security

Data Protection against Emerging Threats using Incubating Technologies

Conference: 23 – 24 October 2019 @ HKCEC

Workshop: October – November 2019 @ HKPC Building

Keynote 1 ： Artificial Intelligence: Friend or Foe of Security (E)

Keynote 2 ： Embedding Cyber Security in the Business Strategy (E)

Keynote 3 ： Cyber Security in a Digital Society (E)

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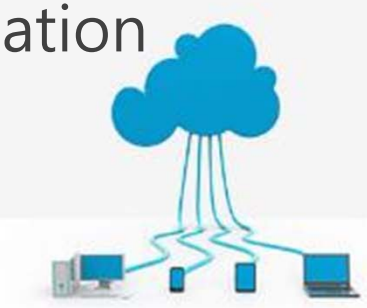
報名： https://www.issummit.org/

Standards and Inspection

- Evaluate the delivery and impact of the settings security policy and practice
- Review any reported online safety incidents to inform and improve future areas of teaching, training and policy development
- Regular Vulnerability Assessment and Remediation



資訊科技保安風險評估 - 學校篇

自第四個資訊科技教育策略推出至今，學校的無線網絡基建已基本完成，以自攜裝置（BYOD）進行電子學習的學校亦逐漸增加。在推行電子學習的同時亦要提高學校對保護學校、學生和家長的資料及資訊科技資產的警覺。根據教育局的《學校資訊保安建議措施》所述，學校有責任採取適當的資訊科技保安措施，以保護學校的資訊科技系統和數據。

資訊科技保安風險評估跟體檢大致相同，藉著定期檢查希望能夠發現一些隱藏的病毒或潛在的風險。透過重複評估與使用資訊科技相關之保安風險的程序，過程中把收集到的數據進行評估和分析，呈報已發現的保安漏洞，並作出評估及提出相關安全性的建議。

資訊科技保安風險評估

在眾多的資訊科技系統中，學校最多使用而又連接到互聯網的便是學校的網站。要使有關網站的數位服務系統和應用系統的安全，良好的設計和開發過程是必須重視的。有見及此，我們顆拍了專業網絡安全管理專家 **UDomain** 為學校進行保安風險評估，以網站弱點性測試及滲透測試*為學校網站分析和測試數位服務的安全性。這樣的安全測試工作，應當作是學校專案中要持續進行的活動，不應當作是最後或有需要時才執行的一項檢查。

網站弱點測試 (Vulnerability Test) –

- 找出網站漏洞
- 進行系統掃瞄
- 有助系統達致符合保安及審查的標準

免費評估 名額 10 個
(由專業網絡安全管理專家 UDomain 提供)

Further resources

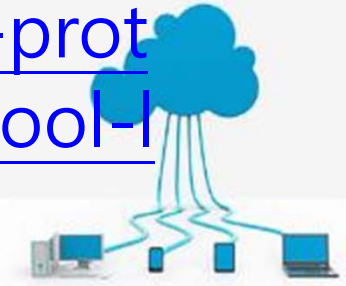
School e-Security Checklist –

- 20 e-security controls

https://www.tripwire.com/state-of-security/security-data-protection/20-critical-security-controls-control-1-inventory-of-authorized-and-unauthorized-devices/

- 10 steps to protect your school's network

http://www.nen.gov.uk/advice/10-steps-to-protect-your-school-s-network-a-guide-for-school-leaders



Common threats to be aware of

- Hacking
- Malware
- Pharming
- Phishing
- Spam
- Ransomware
- Spyware
- Trojan Horses
- Viruses
- Worms
- DDoS
- Botnets

Cyber Security Framework

School Case 1: Ransomware

Threat : Ransomware Critical

Vulnerability : Email Attachment Critical

Asset : Data Files on share drive Critical

Impact : Files will be encrypt Critical

Likelihood : Critical

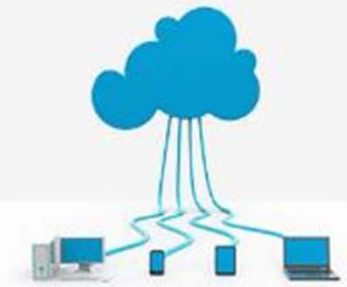
Risk : Permanent loss of data Critical

Control Recommendations :

(1) Regularly Backup on offline drive

(2) Update latest patch of OS

(3) Education (Phishing…)



Cyber Security Framework

School Case 2: DDOS Attack

Threat : DDOS Attack High

Vulnerability : Firewall is configured Low

Asset : Website Medium

Impact : Website resources will be unavailable. Medium

Likelihood : Medium

Risk : Medium

Control Recommendations :

(1) Monitor the firewall

(2) update patch of web server.

Cyber Security Framework

School Case 3: Privacy leakage

Threat : Privacy leakage critical

Vulnerability : Human Negligence Critical

Asset : Student / Staff Privacy Information Critical

Impact : School Reputation / legal Consequence Critical

Likelihood : High

Risk : Critical

Control Recommendations :

(1) Define the privacy information.

(2) The policy of handling privacy information is necessary. (e.g. password protection, send the document a nd password in different way.)

(3) Education / Training

Cyber Security Framework

School Case 4: Files Deleted

Threat : Accidental Files Delete low

Vulnerability : Users can modify on Public drive low

Asset : Public Drive low

Impact : low

Likelihood : Medium

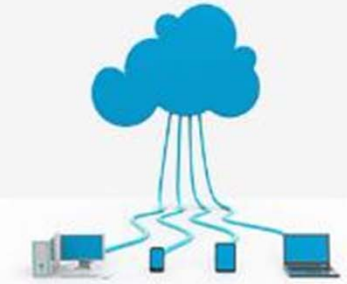
Risk : recover in few minutes low

Control Recommendations :

(1) Regular backup with versioning function

(2) Backup policy listed in teacher's handbook

(3) Education (Promote the use of cloud drive)



Cyber Security Framework

School Case 5: software license lost

Threat : software license lost medium

Vulnerability : Only have a hard copy Document of License low

Asset : Software (Photoshop, Unity) medium

Impact : Can not be used in license medium

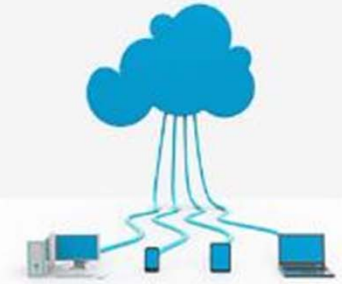
Likelihood : TSS resign Medium

Risk : Buy a new one.... Medium

Control Recommendations :

(1) Proper Asset register

(2) Centralize the software license document



Cyber Security Framework

School Case 6: Password leakage

Threat : Password leakage High

Vulnerability Human Negligence / System vulnerabilities Medium

Asset : Websams, eclass, Window password medium

Impact : Depend on system low- Critical

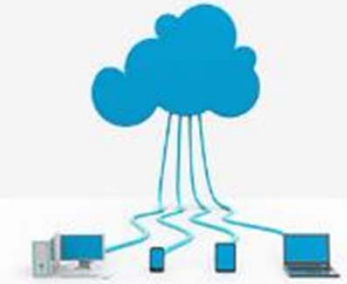
Likelihood : Medium

Risk : Depend on system low- Critical

Control Recommendations :

(1) Password policy

(2) Education



Cyber Security Framework

School Case： Conclusion

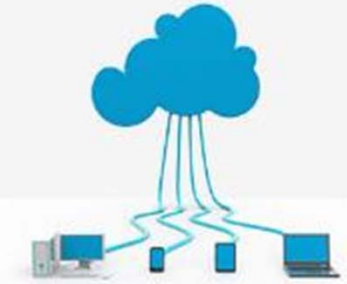
(1) Identify (辯識)

(2) Protect (保護)

(3) Detect (偵測)

(4) Response (回應)

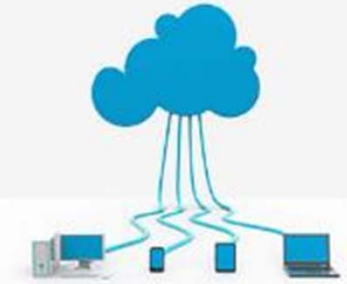
(5) Recover (復原)



Cyber Security Framework

(1) Identify (辨識)

Asset Management 資產管理
Risk Assessment 風險評估
Risk Management Strategy 風險管理策略
Governance 治理
Business Environment 營運環境



Cyber Security Framework

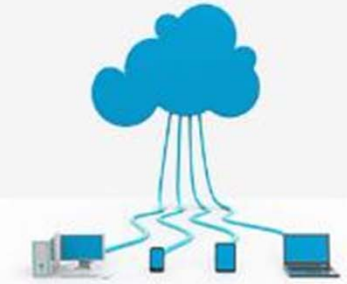
(2) Protect (保護)

Access Control 存取控制
Awareness and Training 意識與教育訓練
Data Security 資料安全
Maintenance 維護
Protective Technology 防護技術
Info Protection and Procedures 資訊保護與程序

Cyber Security Framework

(3) Detect (偵測)

Security Continuous Monitoring
持續性的安全監測
Anomalies and Events 異常事件
Detection Processes 檢測流程



Cyber Security Framework

(4) Respond 回應

Response Planning 回應計劃
Mitigation 緩解
Analysis 分析
Communications 溝通
Improvements 改善

Cyber Security Framework

(5) Respond 回應

Response Planning 回應計劃
Mitigation 緩解
Analysis 分析
Communications 溝通
Improvements 改善

THANK YOU