


**Staying Safe Online**  
*Montpelier Senior Center*



**Week 7**

# **Protecting Your Systems**

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<https://tinyurl.com/3b6p3h8s>

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**Topics**

- Issues
- Antimalware
- Firewalls
- Locking
- Parental Controls
- Passwords
- Updates
- Software
- BYOD


Some of these topics have been mentioned in earlier lectures. They are so important that more details are provided in today's review.



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## Issues

- **Unprotected systems liable to immense trouble**
  - ❑ Theft of information (e.g., SSN, bank info)
  - ❑ Insertion of malicious software (*malware*)
  - ❑ Ransomware (encrypting data & demanding money to release info)
- **Visitors or intruders can abuse systems**
  - ❑ Harmful websites
  - ❑ Illegal activities (hacking, data theft, pornography, threats....)
  - ❑ Accidental or deliberate data destruction or modification

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## Antimalware (1)

- **Malware (viruses & Trojans) cause enormous harm**
  - ❑ Direct loss of money (access to credit-cards and bank accounts)
  - ❑ Downtime (especially bad for businesses)
  - ❑ Reputational damage (embarrassing)
  - ❑ Legal & regulatory penalties (US laws)
- **Viruses**
  - ❑ Self-replicating programs
- **Trojans**
  - ❑ Downloaded by mistake

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## Antimalware (2)



- Internet of Things (IoT) damage can be serious
  - ❑ Medical equipment
  - ❑ Manufacturing problems
- Malware increasing in complexity – harder to fight
- Total damages in \$100 billion range/year in US alone
- Essential to run updated antimalware products at all times

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## Antimalware (3)




- Top-rated software for Windows, Mac, Android, iOS
  - ❑ Bitdefender Total Security – \$73/year
  - ❑ Norton 360 Deluxe – \$20/year
  - ❑ ESET Home Security Ultimate – \$125
  - ❑ McAfee Total Protection – \$20
  - ❑ Malwarebytes Premium – \$100
- Be sure to check how many home computers or phones are covered by the license
- Can be ordered online or at local stores such as BestBuy, Walmart, Office Depot, Staples etc.

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## Firewalls (1)

- Firewalls control
  - ❑ Access to your computer(s) & even phones
  - ❑ Access to harmful Websites
- Easiest & Cheapest: integrated into antimalware software
  - ❑ Bitdefender Total Security
  - ❑ Norton 360
  - ❑ McAfee Total Protection
  - ❑ Kasperky Total Security

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## Firewalls (2)

- Some firewalls are hardware
  - ❑ Offer detailed customization of traffic
  - ❑ E.g., different access for guests
  - ❑ Useful for controlling IoT (Internet of Things)
    - ✓ Refrigerators
    - ✓ Smart lights, etc.
- More expensive than software
  - ❑ Firewalla Gold SE – \$479
  - ❑ Netgate 1100 pfSense Security Gateway - \$189
  - ❑ Fortinet UniFi Dream Machine Pro - \$379
  - ❑ SonicWall TZ270W – \$429

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## Locking Your Computers (1)



- As discussed in previous lecture, important NOT to allow unauthorized access to systems
  - ❑ E.g., accessing certain pornography sites involving images of children can result in prosecution
  - ❑ Children have been known to rack up huge costs by buying things online without permission
  - ❑ Hacking from *your* computer could result in charges under 18 US Code 1030(a)
    - ✓ \$250,000-\$500,000 fines
    - ✓ 5 to 10 years in federal prison

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## Locking Your Computers (2)



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## Parental Controls (1)



- **Screen time limits**
  - ❑ Each child/user has specific logon ID
  - ❑ Parents can set limits on how long each user can stay online in specific programs (e.g., games)
- **Content filters for specific browsers**
  - ❑ Strictly forbid access to specific types of websites
  - ❑ E.g., porn & violence in games & pages

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## Parental Controls (2)



### Family options

Get what you need to simplify your family's digital life.

### Parental controls



Set good screen time habits.

Choose when and how much time your kids can use their Windows devices.



Keep track of your child's digital life.

Get weekly activity reports of your kids' online activity on Windows.

[View family settings](#)

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## Parental Controls (3)



- **ASK YOUR CHILD TO SHOW YOU THE GAME THEY ARE PLAYING**
  - ☐ May be horrified by level of violence
  - ☐ Car chases, gunfights, robberies
  - ☐ Murdering characters
  - ☐ Blood, explosions, amputations, decapitations
  - ☐ Do not accept “*Oh it’s only a game.*”
- **Watch out for (just a few examples)**
  - ☐ Grand Theft Auto
  - ☐ Call of Duty (e.g., Warzone & Modern Warfare)
  - ☐ Mortal Kombat
  - ☐ Hatred
  - ☐ Doom

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## Passwords




- **Use complex passwords, not easy-to-remember**
  - ☐ **NO** to birthdays, favorite pets, old friends’ names
  - ☐ **YES** to 8-12 characters
    - ✓ Upper and lowercase letters
    - ✓ Numbers
    - ✓ Special symbols (as permitted by site)
  - ☐ E.g., 8URn#v3J\*w (*no, not one used by prof!*)
- **Use good password safes for Windows & Apple:**
  - ☐ Dashlane, Bitwarden, 1Password, Keeper, NordPass....

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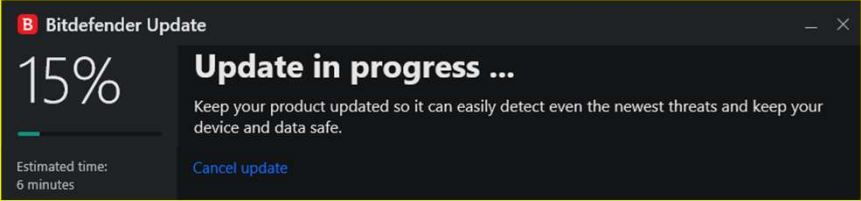
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## Updates

- Software changes to adapt to new conditions
  - ❑ Operating system (Windows, macOS, Android, iOS....)
  - ❑ Software
    - ✓ Utilities (word-processing, browsers...)
    - ✓ Security (antimalware, firewalls...)
- Best to allow automatic updates



Bitdefender Update

15%

Update in progress ...

Keep your product updated so it can easily detect even the newest threats and keep your device and data safe.


Estimated time: 6 minutes

[Cancel update](#)

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## Software Sources

- DO NOT DOWNLOAD SOFTWARE WITHOUT CAREFUL EVALUATION OF SECURITY
  - ❑ Don't download from ANY link in an SMS message or unexpected email
  - ❑ Always verify the source independently
    - ✓ Look up the company or organization yourself
    - ✓ If there are doubts remaining, phone the *official* phone number you have found yourself
- Before buying or downloading *any new software*, look up reviews

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## BYOD

### ➤ Bring Your Own Device

- ❑ May have to use a portable computer or phone outside the home or business
- ❑ Not all businesses or home owners will permit access to *their* internet service

### ➤ If you do use an external internet service

- ❑ Be sure you have up-to-date antimalware/firewall software running
- ❑ NEVER do anything illegal on ANY service
  - ✓ Could be sued or arrested for breaking terms of service or laws

### ➤ Think carefully before allowing guests to use your home Internet – be sure you trust them



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# OK, STAY SAFE!



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