

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
 - Kaspersky 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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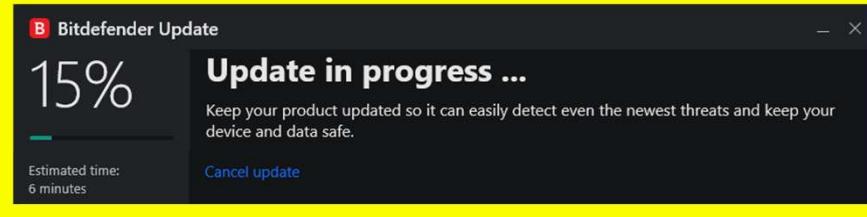
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Updates

- 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



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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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