How To Protect your Data & Research, Tips & Tricks

JOE GRAY DIRECTOR OF CYBER SECURITY OPERATIONS & IDENTITY AND ACCESS MANAGEMENT

Why The class?

USNH RECENTLY HAD TWO INCIDENTS THAT INVOLVED THE LOSS OF A FACULTY MEMBER'S RESEARCH AND A FACULTY MEMBER EXPOSING THEIR PII. BOTH IN SEPTEMBER 2023.

- THE FACULTY MEMBER THAT LOST THEIR RESEARCH WAS DUE TO MALWARE
- THE FACULTY MEMBER THAT EXPOSED THEIR PII WAS DUE TO USER ERROR

HOW CAN I HELP?

- PLANNING CONSIDERATIONS, PER INVENIO IT BETWEEN 70-80% OF DATA LOSS IS HUMAN ERROR
- TIPS AND TRICKS,

Considerations

1. What is the general size of your data
2. Where are you storing it (local, Cloud, Removable media)
3. When are you saving, time and weather could impact your ability to save your data
4. What is your back up plan, do you need one, do you need versioning

Size

What is the size of my data and how frequently do I need to save it.

- 5000 word document, 633KB
- 2 hours of 1920X1080, H.264 video, 33.3GB

Should I compress it?

- Can corrupt original file
- Many types
- Should test

Where are you storing it

Cloud computing is great, but internet connectivity is needed. If the tools you are using require cloud access ensure you have a way to get it there.

- Upload speed is not the same as download speed.
- You are limited by the receiving end

Know the general size of your data and how long it will take to save it.

Chart 1: USB Cable Types, Standards and Speeds

Standard	Also Known As	Logo	Year Introduced	Connector Types	Max. Data Transfer Speed
USB 1.1	Full Speed USB		1998	USB-A USB-B	12 Mbps
USB 2.0	Hi-Speed USB		2000	USB-A USB-B USB Micro A USB Micro B USB Mini A USB Mini B USB-C*	480 Mbps
USB 3.2 Gen 1	USB 3.0 USB 3.1 Gen 1 SuperSpeed	SS 5	2008 (USB 3.0) 2013 (USB 3.1)	USB-A USB-B USB Micro B USB-C*	5 Gbps
USB 3.2 Gen 2	USB 3.1 USB 3.1 Gen 2 SuperSpeed+ SuperSpeed 10Gbps	SS 10	2013 (USB 3.1)	USB-A USB-B USB Micro B USB-C*	10 Gbps
USB 3.2 Gen 2x2	USB 3.2 SuperSpeed 20Gbps	SS 20	2017 (USB 3.2)	USB-C*	20 Gbps
USB 4	USB4 Gen 2×2 USB4 20Gbps	20	2019	USB-C*	20 Gbps
USB 4	USB4 Gen 3×2 USB4 40Gbps	40	2019	USB-C*	40 Gbps

What is your backup plan

All of the following presented tips are not perfect. You should develop backup plan and then practice your plan. Data can be lost due to physical damage not just digital.

- Is it using redundant media
- Is it emailing a document to yourself
- Is it contracting a third party (Cloud)

- Is it distributing it to another person on the team
- Is it placing it in the mail (FedEx, UPS)

Tip 1: Secure and vet your personal computer (PC)

Personal computer is any device used to conduct and store work (PC, Tablet, Phone, VDI)

1. Is it up to date, including applications (all updates and patches installed)
2. Does it have sufficient storage
3. Does it have an anti-virus installed
4. Do you need network connectivity for it (VDI, Updates)
5. Have you paid your bill to maintain access
6. Don't take risky behavior with your work PC
   - Don't put unknown USB devices in your PC
   - Don't download files from questionable sites

Joe's picks & FYIs:

1. Use an ET&S device it has Crowdstrike installed
2. If you have to take risky behavior, build some controls in
3. All systems have vulnerabilities even Macs and Chromebooks
4. Have a back up if you can

Tip 2: Use M365 as Much as Possible

USNH M365 offering is best way to protect your data through cloud connectivity

1. Auto Saves
2. Scans files before allowing them to be uploaded to OneDrive
3. All files downloaded can be considered safe
4. One Drive can be expanded to 5TB at users request
5. Files bigger than 2TB should use Sharepoint
6. Can be used on any device or by web browser
7. Will soon have DLP protection

Joe's Picks & FYIs:

1. 200 data centers globally
2. Will need internet connectivity. Bandwidth can be limiting factor
3. Can save locally as well
4. Sharepoint is integrated in with Teams

Tip 3: All the other Cloud Offerings

USNH has access to the Adobe Creative Cloud 100GB, but there are other options users may use just keep in mind USNH staff will not be able to assist. Also know where those docs are going to be saved.

1. iWork default is saved to iCloud
2. Gsuite default location is Google Drive
3. Do you have enough cloud storage?
4. Multiple cloud vendors for large storage (AWS, Azure, Google, Many more) Need time to set up.
5. Will current bandwidth be sufficient to upload
6. Email can be a form of storage for small files

Joe's Picks & FYIs:

1. Anyone a good choice, just test first
2. Will need internet connectivity. Bandwidth can be limiting factor
3. Some configuration may be required
4. Email is a good form of storage

Tip 3: Removable Media

Thumb drives, portable HDs, SD Cards, CDs, DVDs, Blue Ray, all can be forms of portable large volume storage. Depending on the media and conditions it can be very resilient.

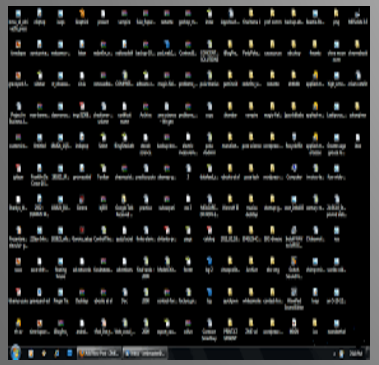
1. Don't put your media in strange places
2. Media can carry malware, don't use strange media
3. Don't buy media from questionable locations, it is at your own risk
4. Certain media sensitive to water, magnetism, heat and cold
5. DVD's and Blue Ray's still viable but becoming more of a niche storage option

Joe's Picks & FYIs:

1. Anyone a good option
2. Some might be a better option depending on circumstance
3. I use removable media to back up file on my system

Tip 4: Final Tips and Warnings

1. Save often, save in multiple locations, maybe use versioning
2. Beware of Malware it can make your computer and data inaccessible
3. Keep your computer updated
4. Consider encrypting your data
5. Keep Your data organized
6. Know your data storage plan and the limitations of it



Questions