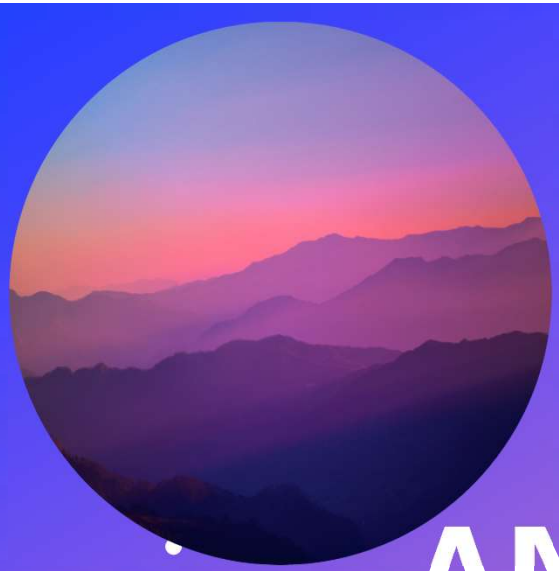
MINNESOTA TECH FOR SUCCESS

Week 5-7: Software and Operating Systems

12/20/2023

Agenda

- **Announcements**
- **Classroom (25 min)**
  - Laptop Terms of Use
  - Installing & Using Software
  - Install applications
- **Break (5 min)**
- **Warehouse (1.5 hrs)**
  - Hardware recycling



ANNOUNCEMENTS

Week 6

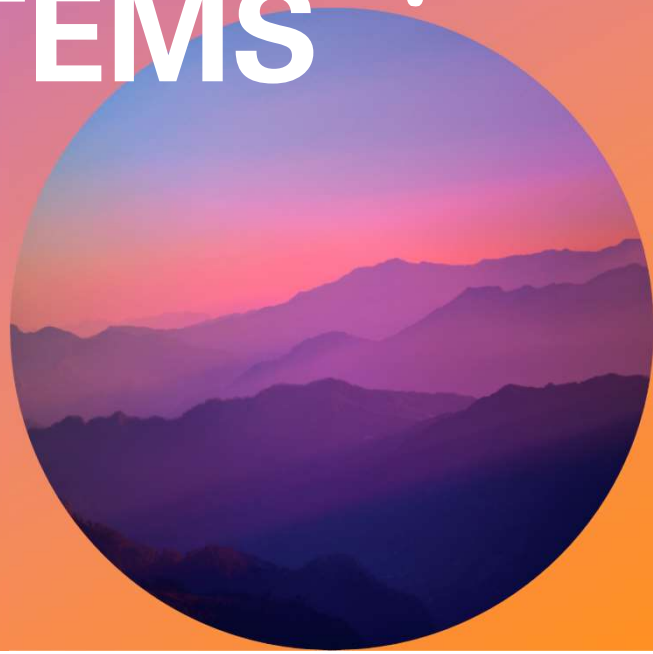
Announcements for 12/20

- **Laptops**
  - Terms of use
- **Calendar**
  - Next session: **Wednesday, 1/10/2024**
  - No School; winter break from 12/22/2023 - 1/5/2024

Values

- **R**espect
- **A**ccountability
- **I**mprovement
- **S**teadfast
- **E**ncouragement

SOFTWARE & OPERATING SYSTEMS



Information Security

Database & Network Management

Computer Technical Support

Business Software Development

Software & Operating Systems: Objectives

1. What is software?
   - Explanation of software, its role in computing, and the various types of software, including applications and operating systems
2. Basics of operating systems
   - Fundamental functions of operating systems and how they interact with hardware
3. How to install and use software
   - Guide on how to install and use software applications on a computer
4. Simple software troubleshooting
   - Basic troubleshooting steps for software-related issues, such as resolving software crashes.

Recap: What is Software?

- Instructions that tell a computer what to do (perform a task)
- Entire set of programs, procedures, and routines associated with the operation of a computer system

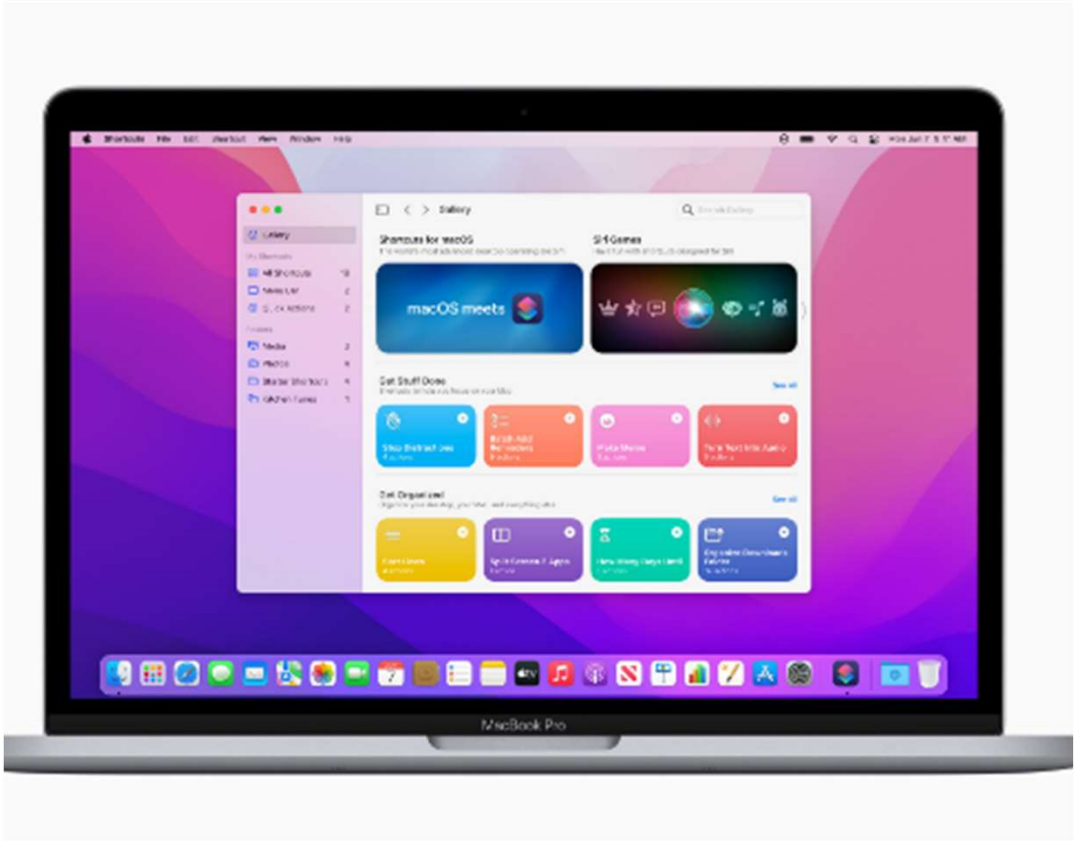
Recap: Operating System (OS)

Allows the user to interact with the computer

- Manages and provides interface between hardware, application software, and user
- **GUI** – Graphical User Interface: interact through graphical icons and visual indicators

Several different computer programs running at the same time

- Access computer's CPU, memory (RAM), and storage (SSD, HDD).



Recap: 3 Types of Software*

System	Application	Network
• Internal functions through OS • Controls peripherals	• Execute commands by user • Any program that processes data	• Coordinates Communication between computers linked in a network

*Software can be made up of more than one program (executable in a programming language dependent on compilers [ex. Windows: C++, kernel is in C])

Recap: Software Interaction

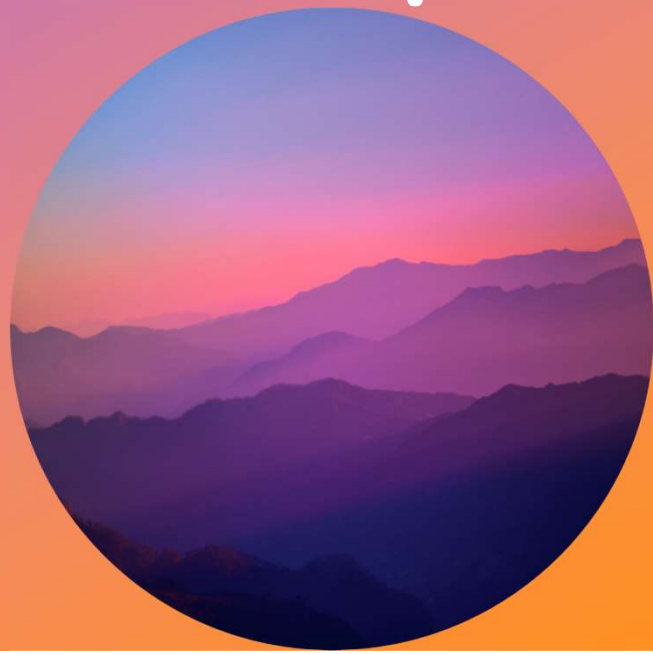
User

Application (software)

Operating System (system software)

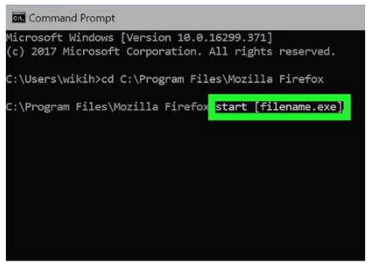
Hardware

INSTALLING & USING SOFTWARE



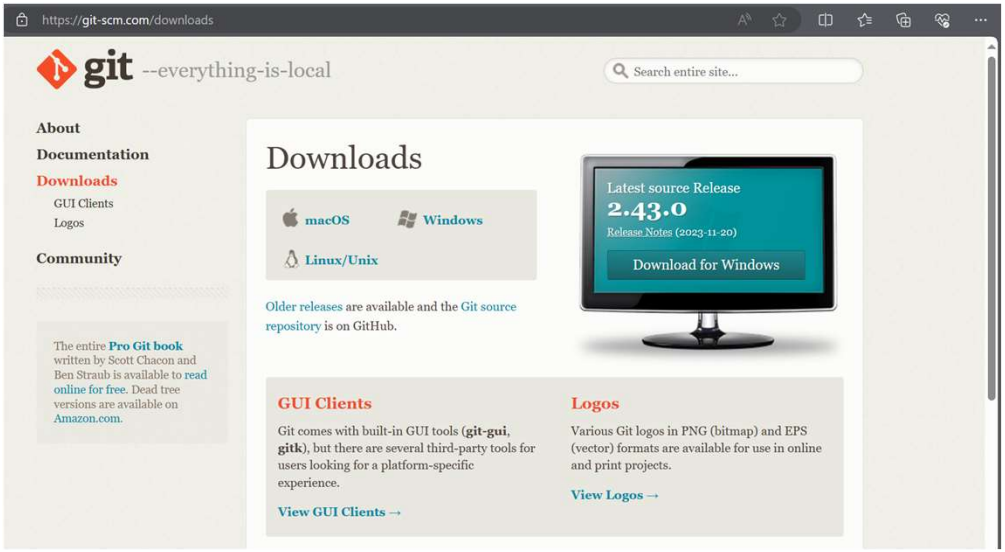
Installing Software: Applications

1. Standalone Installer
   - .exe, .zip
2. App Store: Microsoft Store, Mac App Store
3. Command-line shell Install
4. Physical (thumb-drive)



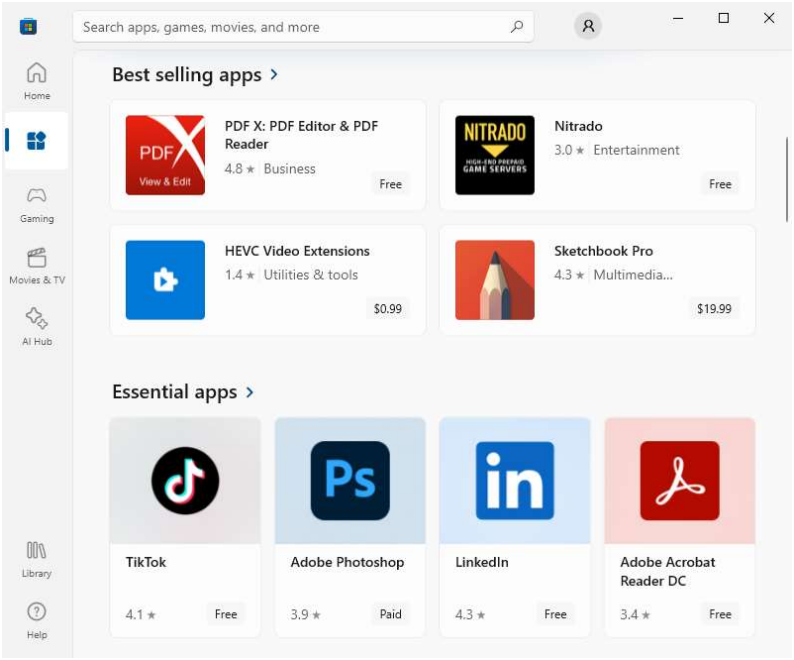
Install Method 1: Standalone

1. Navigate: Website
2. Locate & Click: download session
3. Click: download
4. Navigate & click on taskbar: ‘File Explorer’
5. Navigate: Windows folder: ‘Downloads’



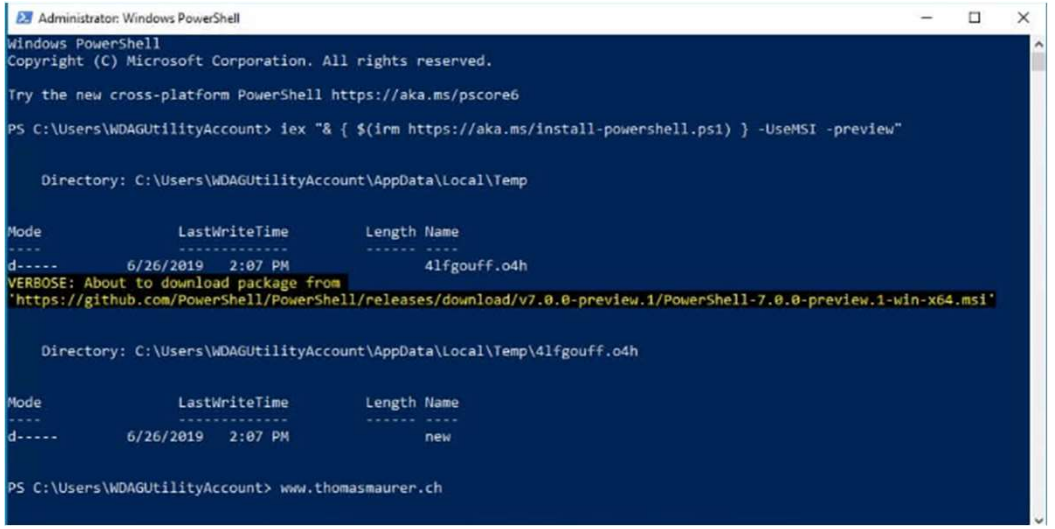
Install Method 2: App Store (Microsoft Store)

1. Locate & Click :Windows Shopping Bag Icon on task bar
2. Click: Apps on sidebar
3. Search and click: App
4. Click: Install



Install Method 3: Command-line Shell (Windows PowerShell)

1. Press: [Win] + X
2. Select: Windows PowerShell (Admin)
3. Type: ‘cd your/directory/folder’ (to change directory over where your application file is)
4. Type: ‘start your-exe-file.exe’
5. Follow prompts through GUI to finish install



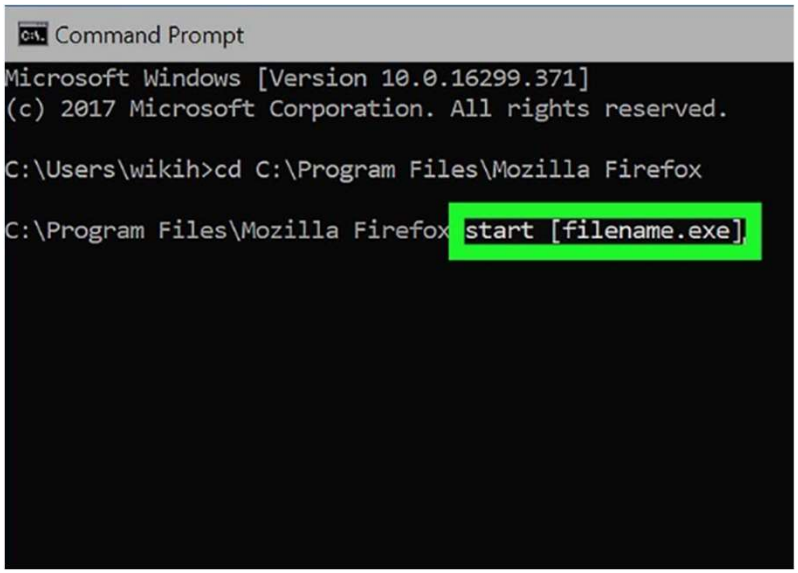
Install Method 4: Physical (Thumb Drive)

1. Obtain thumb drive* (USB Flash Drive) with unused ample storage space (8 GB +)
2. Navigate to and follow the OS manufacturer's guide on their website
3. Pre-load install software(iso file) into the USB Flash Drive
4. Power off PC and insert USB Flash Drive
5. Boot on PC from the USB installation drive
6. Follow instructions on Windows Setup to finish installation

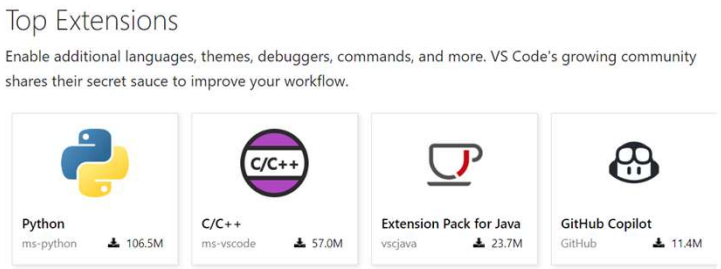
*You can also purchase a pre-loaded OEM physical copy of Windows 11

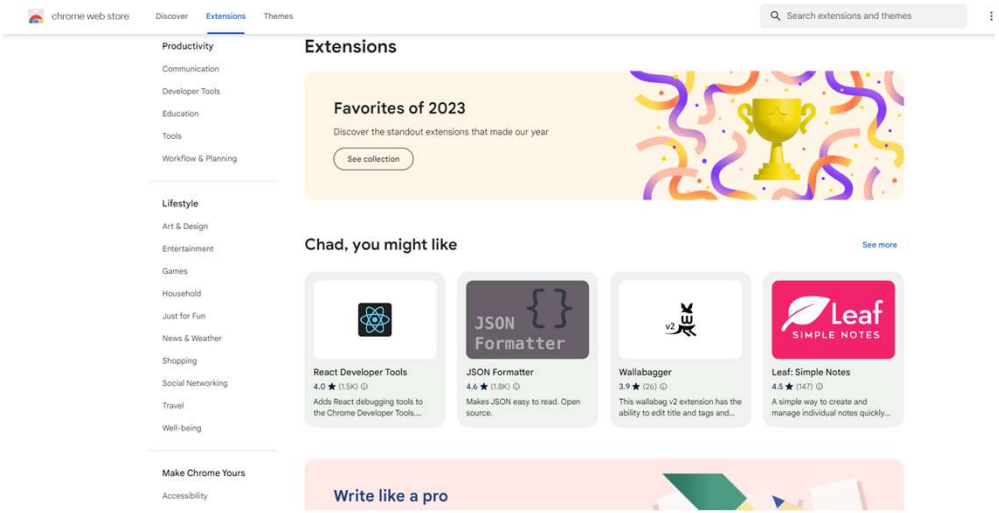
Installing Software: Command Line Interface

1. Command Line:
   - User interface used to interact with computer programs, directories and files through typed commands
   - Display text-based output returned by the application - CLI requires Shell to run.
2. Shell: Program that takes commands from the keyboard and gives them to the OS to perform. Ex. bash, ksh, sh
   - Terminal (MacOS)
3. Command Prompt: Same as Shell - developed by Microsoft
   - PowerShell (access to several libraries to build)

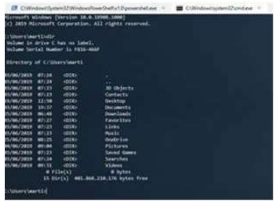


Application: Add-ons or extensions

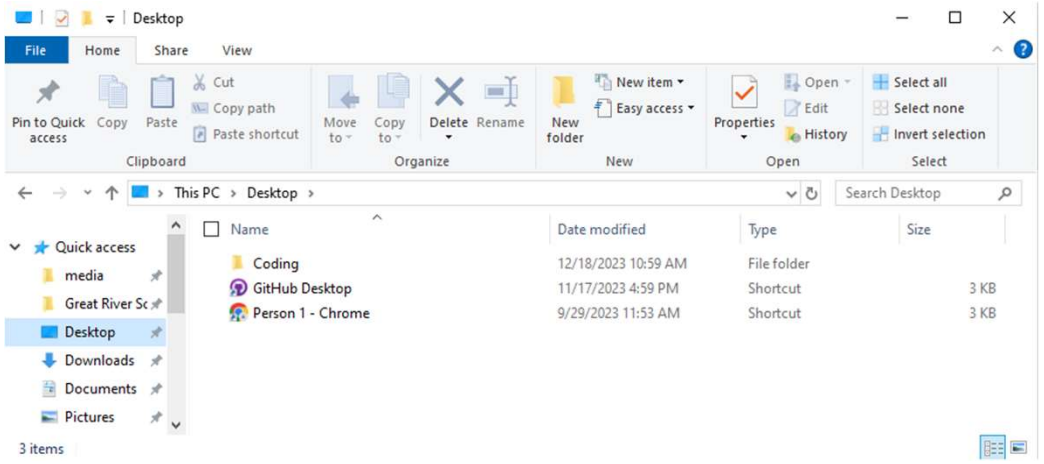


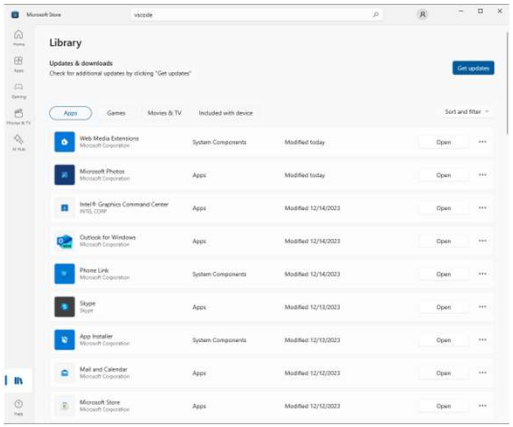


Ways to Use/Launch Software

1. Windows Start
2. Terminal 
3. App shortcut icon

4. File Explorer .exe
5. Microsoft Store library





ACTIVITY

Install & Sign-up

Install/Sign-up for the following:

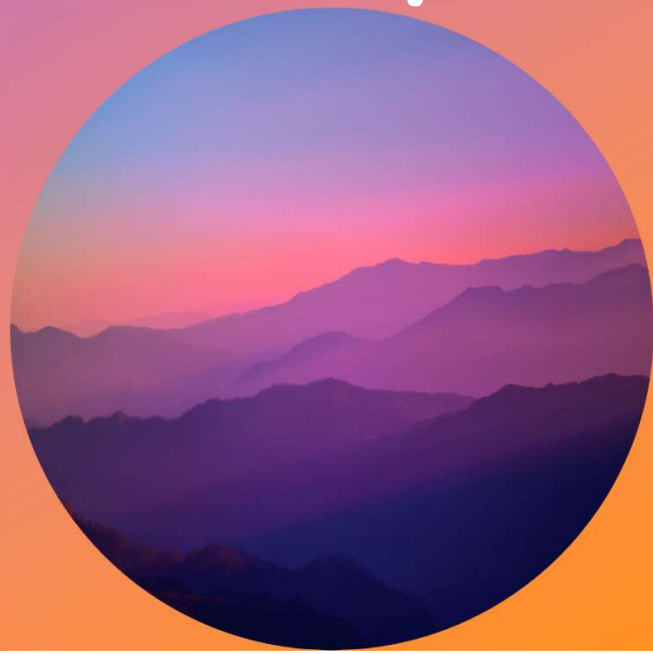
1. **Google Chrome Browser** **Install using standalone method**
2. **Git for Windows – Install using standalone method**
3. **Visual Studio Code – Install using app store method**
4. **Github**
   - Optional Github Desktop (https://desktop.github.com)
5. **CodePen**

* All links are located on curriculum website

WAREHOUSE

Warehouse Activity

- 1:30-3:00pm
- VR Sets w/ Jason & Ian
- More parting/recycling

BREAK

5 minutes