

MINNESOTA TECH FOR SUCCESS



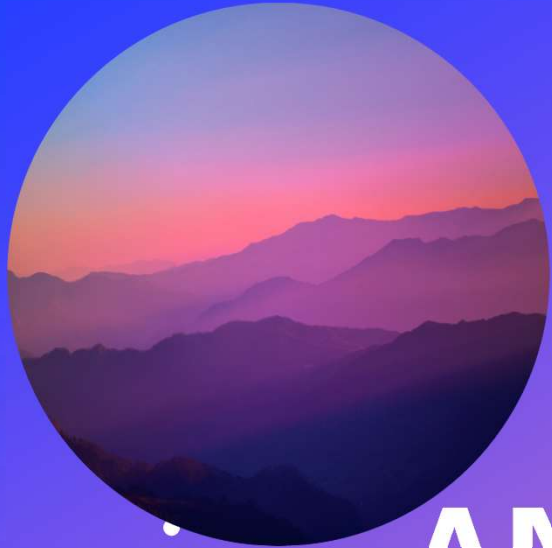
Week 5-7: Software
and Operating Systems

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

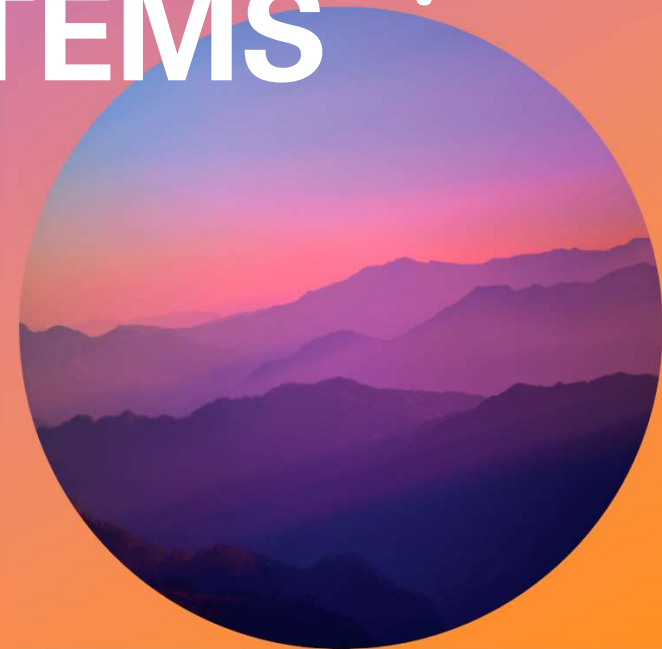


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SOFTWARE & OPERATING SYSTEMS





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)

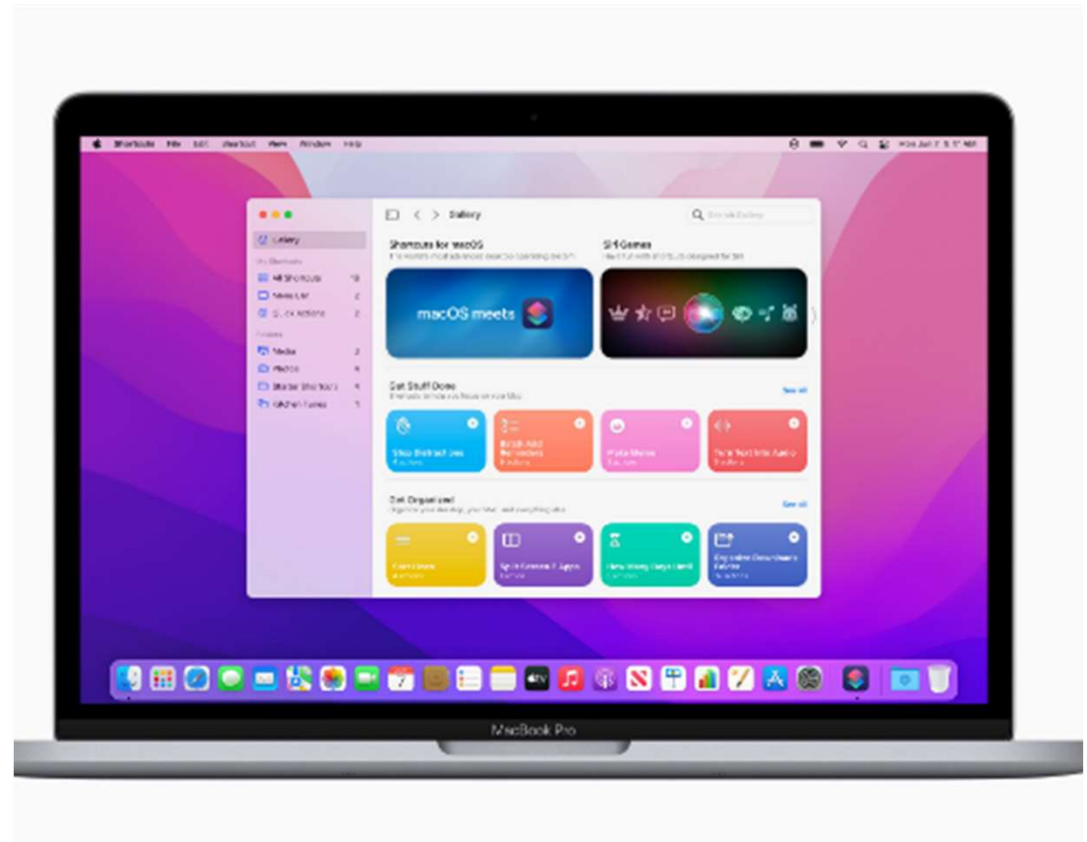
Allows the user to interact with the computer

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
<ul style="list-style-type: none">• Internal functions through OS• Controls peripherals	<ul style="list-style-type: none">• Execute commands by user• Any program that processes data	<ul style="list-style-type: none">• 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



INSTALLING & USING SOFTWARE



Installing Software: Applications

1. Standalone Installer

- .exe, .zip

2. App Store: Microsoft Store, Mac App Store




3. Command-line shell Install

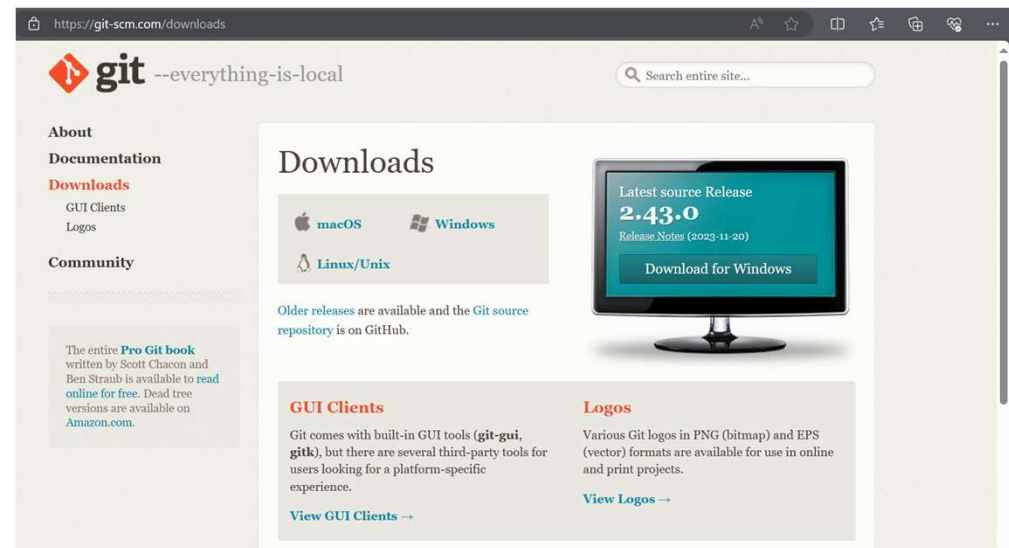
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Command Prompt
Microsoft Windows [Version 10.0.16299.371]
(c) 2017 Microsoft Corporation. All rights reserved.

C:\Users\wikih>cd C:\Program Files\Mozilla Firefox
C:\Program Files\Mozilla Firefox>start [filename.exe]
```

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'

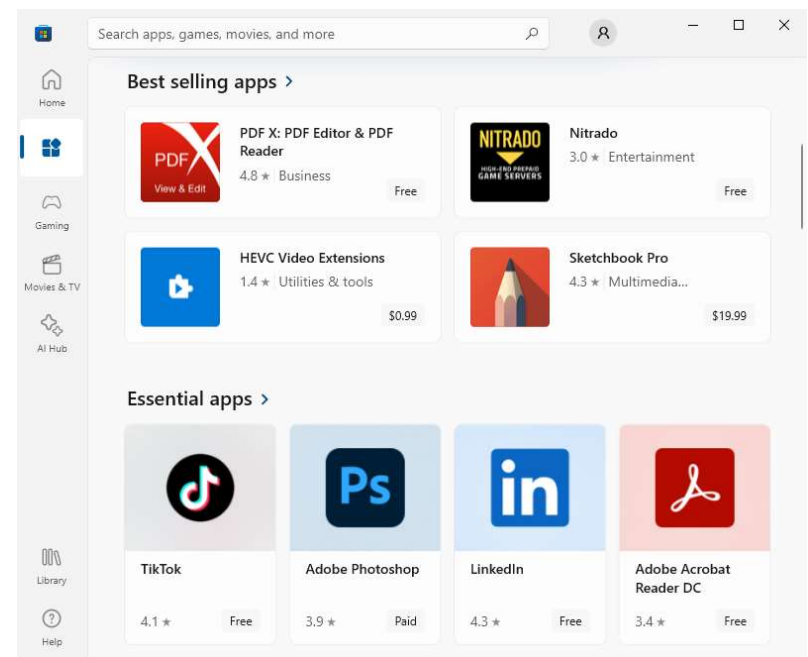


Install Method 2: App Store (Microsoft Store)

1. Locate & Click :Windows Shopping Bag Icon on task bar

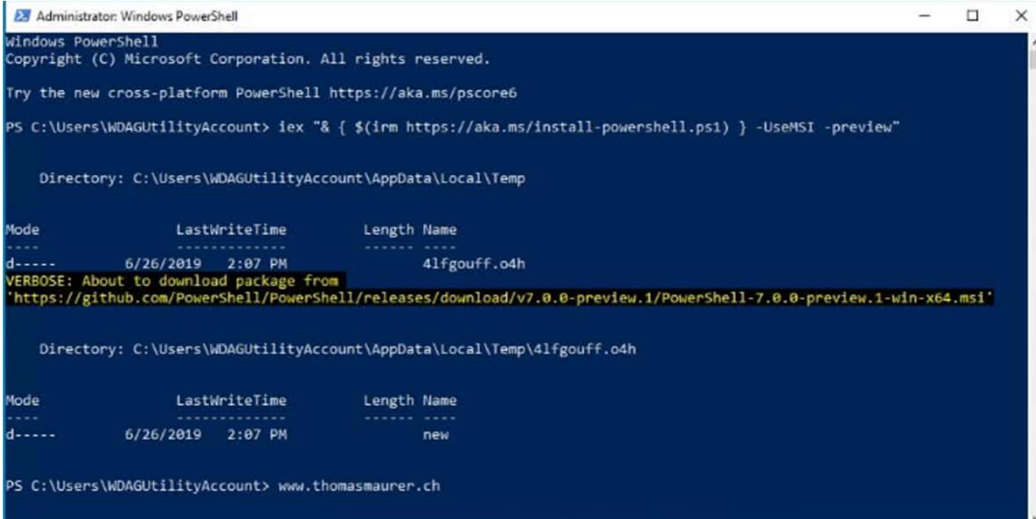


2. Click: Apps on sidebar
3. Search and click: App
4. Click: Install



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



```
Administrator: Windows PowerShell
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\WDAGUtilityAccount> iex "& { $(irm https://aka.ms/install-powershell.ps1) } -UseMSI -preview"

Directory: C:\Users\WDAGUtilityAccount\AppData\Local\Temp

Mode                LastWriteTime         Length Name
----                -
d-----         6/26/2019   2:07 PM             41fgouff.o4h
VERBOSE: About to download package from
'https://github.com/PowerShell/PowerShell/releases/download/v7.0.0-preview.1/PowerShell-7.0.0-preview.1-win-x64.msi'

Directory: C:\Users\WDAGUtilityAccount\AppData\Local\Temp\41fgouff.o4h

Mode                LastWriteTime         Length Name
----                -
d-----         6/26/2019   2:07 PM             new

PS C:\Users\WDAGUtilityAccount> www.thomasmaurer.ch
```

Install Method 4: Physical (Thumb Drive)

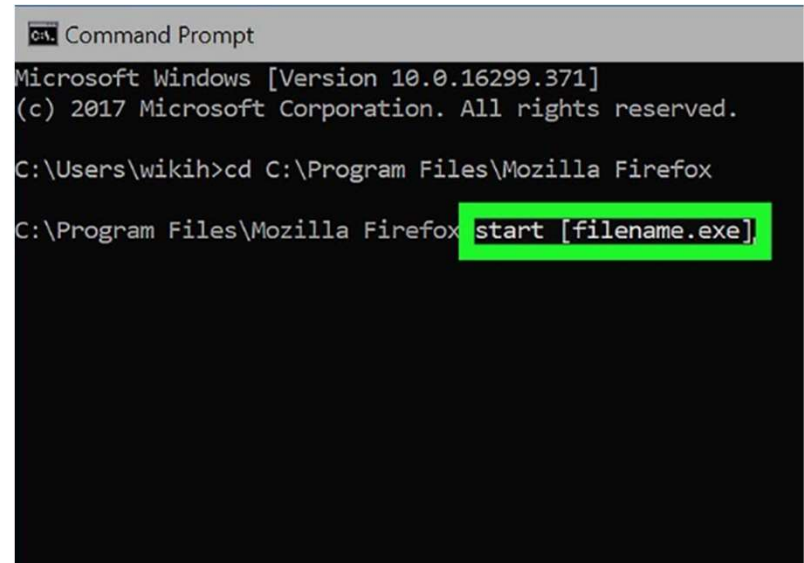
1. Obtain thumb drive* (USB Flash Drive) with unused ample storage space (8 GB +)
2. Navigate to and follow the OS manufacturer's guide on their website
3. Pre-load install software(iso file) into the USB Flash Drive
4. Power off PC and insert USB Flash Drive
5. Boot on PC from the USB installation drive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







```
C:\> Command Prompt
Microsoft Windows [Version 10.0.16299.371]
(c) 2017 Microsoft Corporation. All rights reserved.

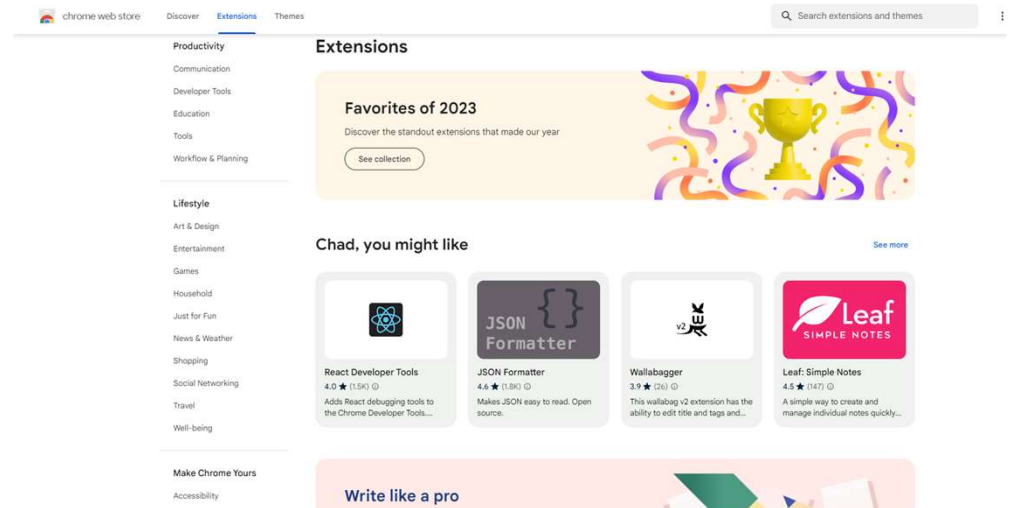
C:\Users\wikih>cd C:\Program Files\Mozilla Firefox
C:\Program Files\Mozilla Firefox>start [filename.exe]
```

Application: Add-ons or extensions

Top Extensions

Enable additional languages, themes, debuggers, commands, and more. VS Code's growing community shares their secret sauce to improve your workflow.

 Python ms-python 106.5M	 C/C++ ms-vscode 57.0M	 Extension Pack for Java vscjava 23.7M	 GitHub Copilot GitHub 11.4M
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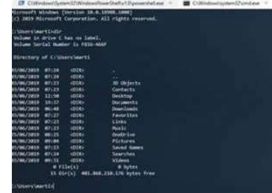
The screenshot shows the Chrome Web Store Extensions page. The top navigation bar includes 'chrome web store', 'Discover', 'Extensions', and 'Themes'. A search bar is located on the right. The main content area is titled 'Extensions' and features a 'Favorites of 2023' banner with a trophy icon and a 'See collection' button. Below this is a 'Chad, you might like' section with four extension cards: 'React Developer Tools' (4.0 stars, 1.5K reviews), 'JSON Formatter' (4.6 stars, 1.8K reviews), 'Wallabagger' (3.9 stars, 26 reviews), and 'Leaf: Simple Notes' (4.5 stars, 147 reviews). At the bottom, there is a 'Write like a pro' banner.

Ways to Use/Launch Software

1. Windows Start



2. Terminal

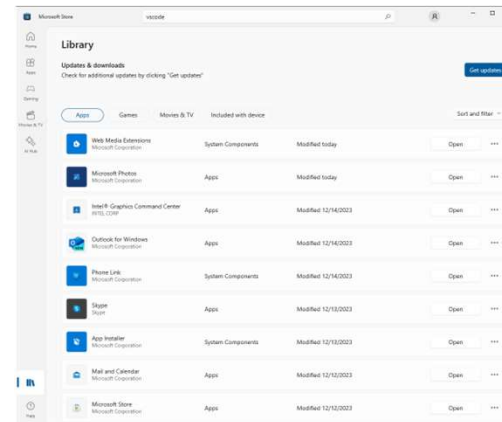
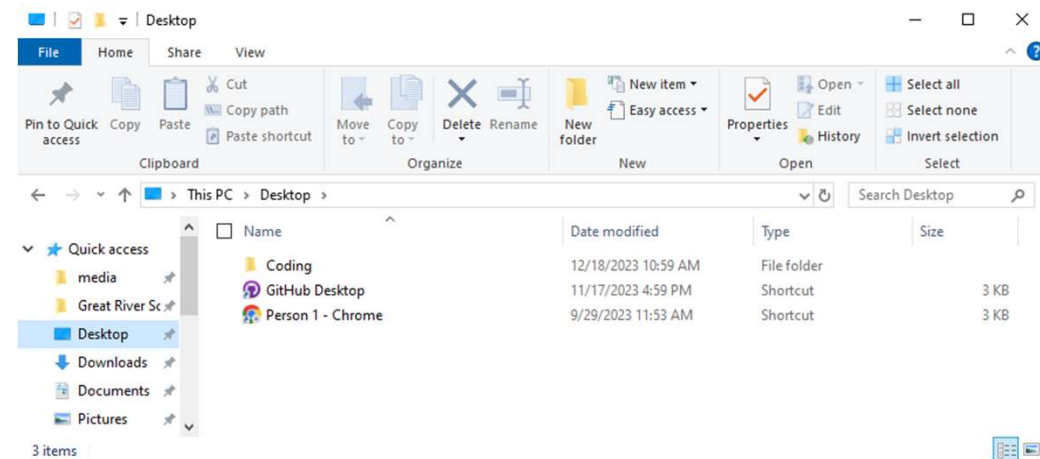


3. App shortcut icon



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

