

# **Session 5: Software Part 2**

**Tech Skills 101: Driver's Ed for the Digital World**

# For awareness

Note: You can learn more about by going to <https://www.apple.com/os/> in your browser

- Apple has release new **major** OS versions
  - macOS Tahoe 26.0.1
  - iOS 26.0.1
- If you have not yet upgraded, consider waiting until the 26.1 versions of both are available—which is likely to be as early as the week of October 27
  - The 26.0 versions have some issues that cause “sluggish” behaviors and drain the battery
- When you do upgrade, be prepared to spend time exploring changes — especially explore apps you use / depend on the most

# Agenda

- File system basics — including (a lot of) terms
  1. Files and folders are arranged in a hierarchy
  2. Some apps *implicitly* save/read stored data for you and some apps require you to take explicit steps to save/read stored data
- Common scenarios
  - File manager apps
  - Accessing files via an app
- Time permitting: Backing up and cleaning up

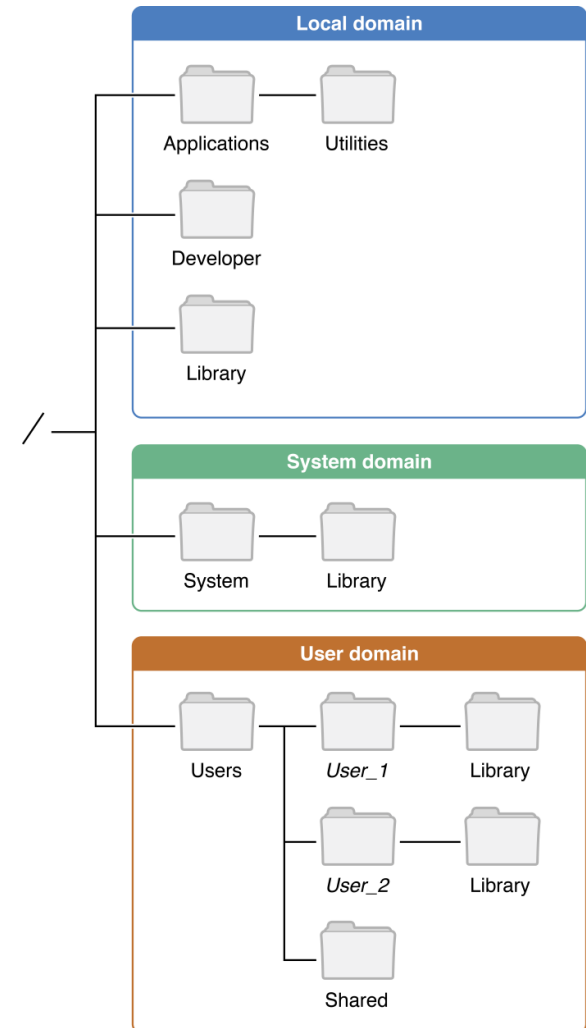
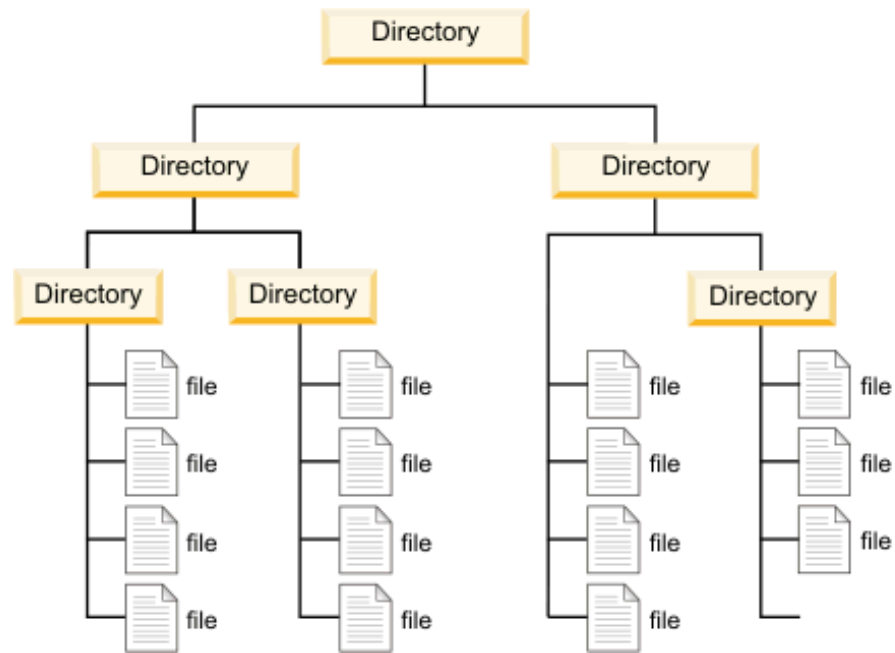
# File System Terminology

drive	<ul style="list-style-type: none"><li>• A storage device</li><li>• Short for “disk drive”</li><li>• Kinds<ul style="list-style-type: none"><li>• Internal: the storage device found inside your desktop, laptop, smartphone, and/or tablet</li><li>• External: a HDD or SSD that you attach to your desktop/laptop/smartphone/tablet using a physical USB connection</li><li>• Cloud: storage space “in the cloud” (often Apple’s iCloud, Microsoft OneDrive, or Google Drive)</li></ul></li></ul>
file	<ul style="list-style-type: none"><li>• A collection of digital data stored as a single object on a drive</li><li>• The type of data stored in a file depends on the <b>file type</b></li></ul>
folder	<ul style="list-style-type: none"><li>• A collection of files and/or other folders</li><li>• <b>Directory</b> is a synonym for “folder”</li><li>• Note: Some apps implement a kind of folder to help you organize things in the app itself (e.g., browser bookmark folders); these folder <u>are not</u> file system folders</li></ul>
path	<ul style="list-style-type: none"><li>• The location on a drive of a file or folder</li></ul>
alias	<ul style="list-style-type: none"><li>• A “shortcut” (also referred to as a “reference”) to a file or folder</li><li>• An alias looks and acts like the file or folder it refers to</li></ul>
metadata	<ul style="list-style-type: none"><li>• Data that defines/describes the characteristics of other data</li><li>• E.g., the title, author and publication date of a book are metadata about the book</li></ul>
smart folder	<ul style="list-style-type: none"><li>• A folder whose contents using some criteria you specify.</li><li>• Criteria can include things like age, type, etc</li></ul>

# File System Metadata

<b>name</b>	<ul style="list-style-type: none"><li>• File and folder names can be up to 255 characters long</li><li>• File/folder names cannot contain some characters (E.g., “/” and “\”</li></ul>
<b>type</b>	<ul style="list-style-type: none"><li>• Data is arranged in a file in some <i>format</i></li><li>• The type (of “kind”) of a file indicates it’s format</li><li>• A file’s type is indicated by<ul style="list-style-type: none"><li>• Its icon</li><li>• Its file name extension (which may not be shown to you in the UI)</li></ul></li><li>• The OS uses a file types to associate files with apps<ul style="list-style-type: none"><li>• This is how the OS knows which app to open a file in when you open a file using a file manager</li></ul></li></ul>
<ul style="list-style-type: none"><li>• <b>date/time created</b></li><li>• <b>date/time last accessed</b></li><li>• <b>date/time last modified</b></li></ul>	<ul style="list-style-type: none"><li>• The date and time the file or folder was created, last opened (i.e., accessed/read), last changed (i.e., modified/updated)</li><li>• The file system uses this metadata to<ul style="list-style-type: none"><li>• To populate your “Recent” smart folder</li><li>• To remove items in the Trash folder after some period of time</li></ul></li></ul>
<b>geolocation</b>	<ul style="list-style-type: none"><li>• The physical location you were at when the file was created</li><li>• Geolocation metadata is only included with some types of files<ul style="list-style-type: none"><li>• Pictures/videos you take with your device are a primary example</li></ul></li></ul>

# File System Hierarchy



# Special Folders

## Notes:

- The names used here are “Apple centric”
- Some of these special folders have different names on Windows
- Most of these special folders have not been present on iPhones and iPads—although that appears to be changing!
- Use the green special folders “to your heart’s delight”; leave the pink one alone!

Applications	Contains the code of apps you have installed on your device
Documents	The <i>defacto</i> location for storing files you create using apps on desktops/laptops iPhones and iPads <b>do not</b> include this special folder
Downloads	Location a file is copied to when you download a file from the Internet
Library	<ul style="list-style-type: none"><li>• Contain files relating to the operating system and apps you have installed<ul style="list-style-type: none"><li>• OS and app settings are stored here</li></ul></li><li>• There are three different Library folders:<ul style="list-style-type: none"><li>• System Library: contains files specifically related to the operating system</li><li>• Root Library: contains app related files that affect every user of the desktop/laptop</li><li>• User Library: contains app related files that affect your desktop/laptop configuration</li></ul></li></ul>
System	Location of the operating system
Trash	<ul style="list-style-type: none"><li>• Always (and only?) find on the macOS doc</li><li>• Only found on desktops and laptops; not found on iPhones or iPads</li></ul>
Users	<ul style="list-style-type: none"><li>• Contains user account “profiles”</li><li>• Only found on desktops and laptops; not found on iPhones or iPads</li></ul>

# File manager apps

A **file manager** or **file browser** is a computer program that provides a user interface to manage files and folders.

*from wikipedia.org*

On **macOS**, the file manager is called **Finder** and the app icon looks like:



On **iOS**, the file manager is called **Files** and the app icon looks like:



On **Windows**, the file manager is called **File Explorer** and the app icon looks like:





# File manager app functions

- **Open** files
- **Search** for files and folders
- **Copy** files and folders
- **Move** files and folders from one folder to another
- **Delete** files and folders
- **Modify** file and folder properties

# Demo

- With Finder
  - Moving around the hierarchy
  - Changing views
  - Creating new folders
  - Moving files and folders
    - Moving a file to your desktop
  - Deleting files and folders
  - The sidebar: Favorites, cloud drives, external drives
- An app that implicitly saves your data to the file system: Contacts
- An app that requires you to explicitly save your data: Pages
  - Look at the File menu
  - Creating a new file
    - Using the same name as an existing file
  - Opening an existing file

# **Backing up & Cleaning up**