Software and Licences

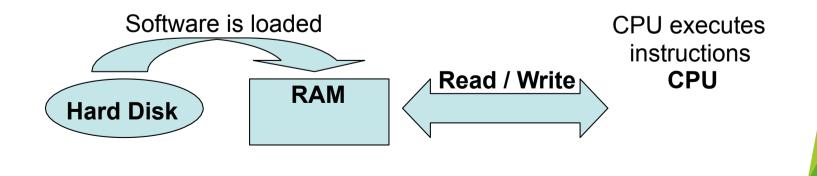


Today's lecture

- Describe what software is
- Understand the legal protections for software
- Learn about the different software licences
- Identify different kinds of software

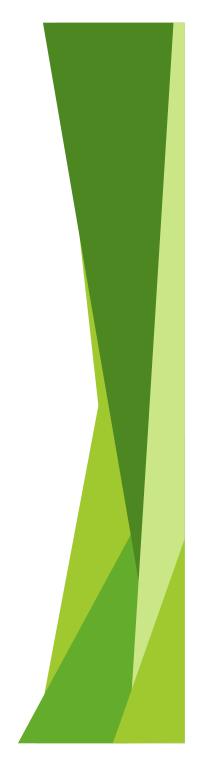
What is software?

- Aka 'programs' or 'apps'. Instructions and other data used by the computer
- User can perform tasks and interact with the hardware through software
- Loaded from secondary memory into primary memory, where it is executed by the CPU



Kinds of software

- System software:
 - Operating system (eg. Windows, Mac OS X)
 - Device drivers
 - Diagnostic and maintenance tools (eg. Disk Cleanup)
- Application software:
 - Used by users to perform tasks on the computer



File formats

- All data on a computer is stored in binary
- However, a program encodes files in its own way; this is the file format
- A program will be unable to open a file if it does not understand the file format



Standards

File formats sometimes follow a standard; an agreed way of encoding data (eg. webpages use the HTML5 standard)

Standards can be:

- Open
 - Published openly
 - Free to use
 - ▶ Eg. HTML, PDF
- Proprietary
 - Owned by a company
 - Others can use the standard if they pay for a licence
 - ► Eg. MP3

File extension

- Used by the operating system to determine a file's format
- Eg. the .docx file format opens by default with Microsoft Word

Graphics	.jpg , .png , .gif	Video	.mpg , .avi , .divx
Sound	.mp3 , .wma , .ogg	Programs	.exe , .com , .bat
Text	.txt , .doc	Program Code	.c , .java , .cs , .py

Copyright

- Software is protected by a range of IP rights
- Copyright:
 - Protects the expression of an idea
 - Copyright Act 1994: literary works (includes software) is protected by copyright

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Kinds of software

Proprietary software

- Owned by an individual or company
- Types:
 - Commercial
 - Shareware
 - Freeware
 - Semi-free (for non-profits)

Open source software

- Freely available
- Anyone can use or edit the software's source code

Proprietary software - commercial

- Software that a user must purchase to use
- Examples: Microsoft Office, Adobe Acrobat, SPSS

Office

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Proprietary software - shareware

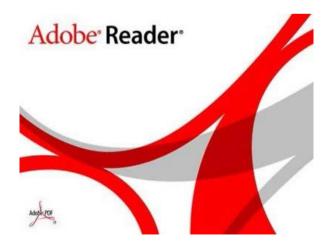
- User has a trial period in which to evaluate the software, and purchase it if they want
- Nagware: software keeps reminding the user to purchase the full version
- Crippleware: software that works with limited functionality until the user purchases it
- Freemium: software with a free tier and paid tier





Proprietary software - freeware

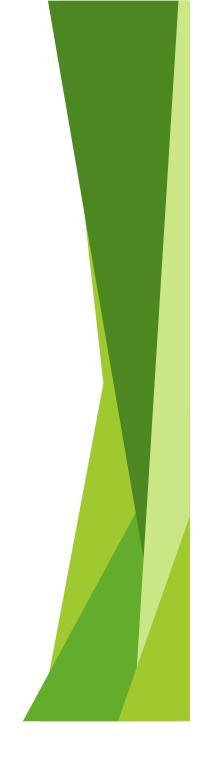
- Software is free to use but source code is not publically available
- Freeware can be a loss leader or adware
- Some freeware is known as abandonware; software no longer maintained but still available





Open source software

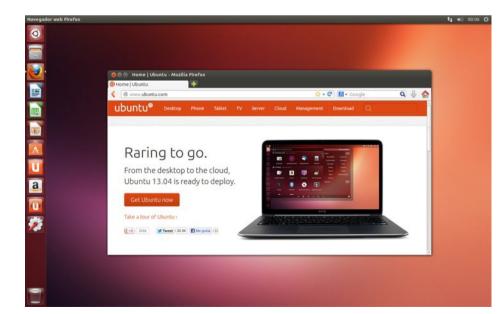
- Software that is free to use and whose source code is public
 - Anyone can use or modify the source code
 - Anyone can create a derivative work from the source code
- Open source movement started in the late 1980's and outlined in the Open Source Definition
- Open source software licences (eg. Apache, GNU) are not as restrictive as commercial software licences



Open source software

Examples of open source software

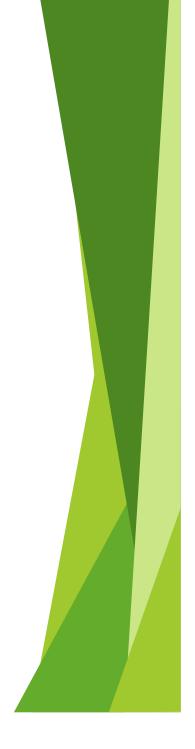






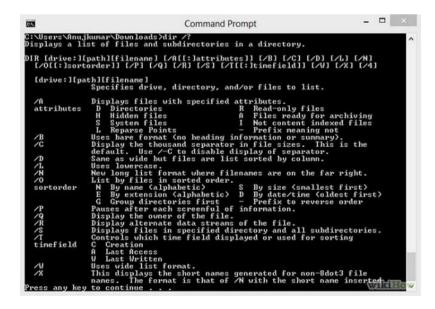
User interfaces

- Two kinds of user interface
 - Command line interface (CLI)
 - Graphical user interface (GUI)
- Key difference is that a CLI is text-based while a GUI graphically-based



Command line interface

- User enters text commands to perform tasks
- Can complete tasks very quickly by combining commands
- Can be difficult to use the text commands if you don't know or understand them



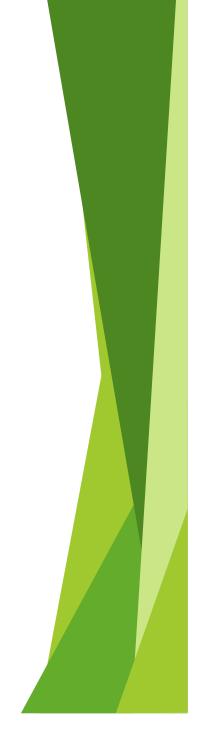
Graphical user interface

- User performs tasks using the software's graphical elements (eg. windows, pointers, icons, menus)
- Generally easy to use, especially for new users
- Can be inefficient for experienced users, but keyboard shortcuts help to make GUIs more efficient

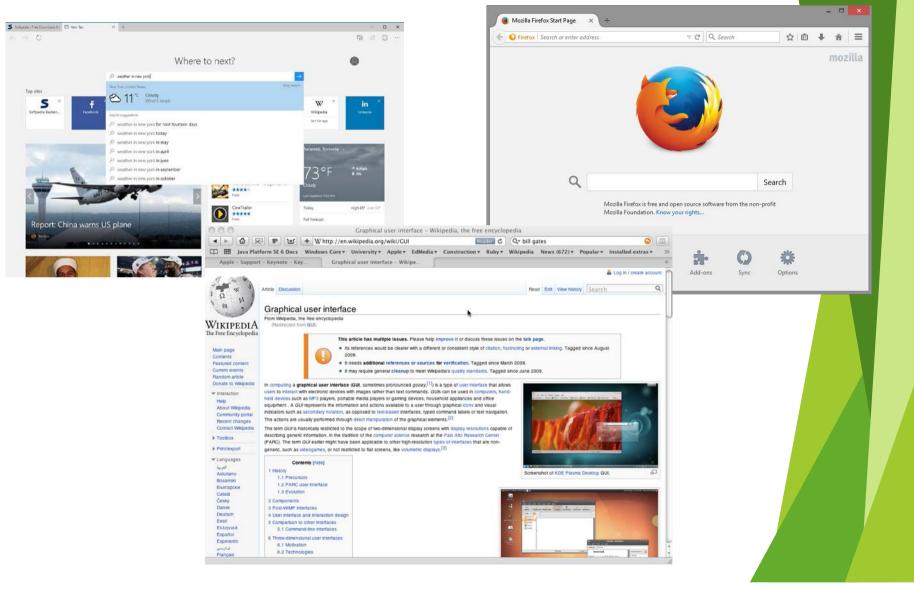


Application software

- Two kinds of software: system and application
- Very wide range of application software



Web browsers

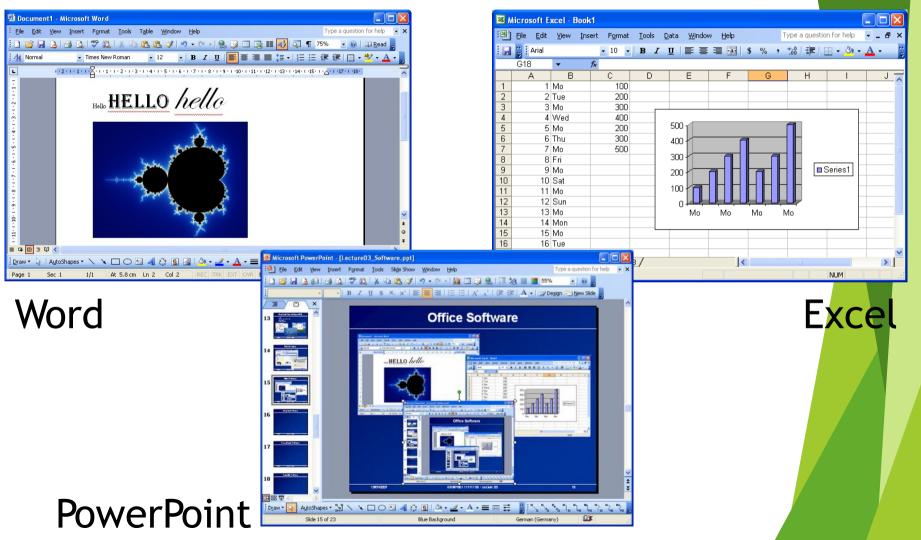


Email clients

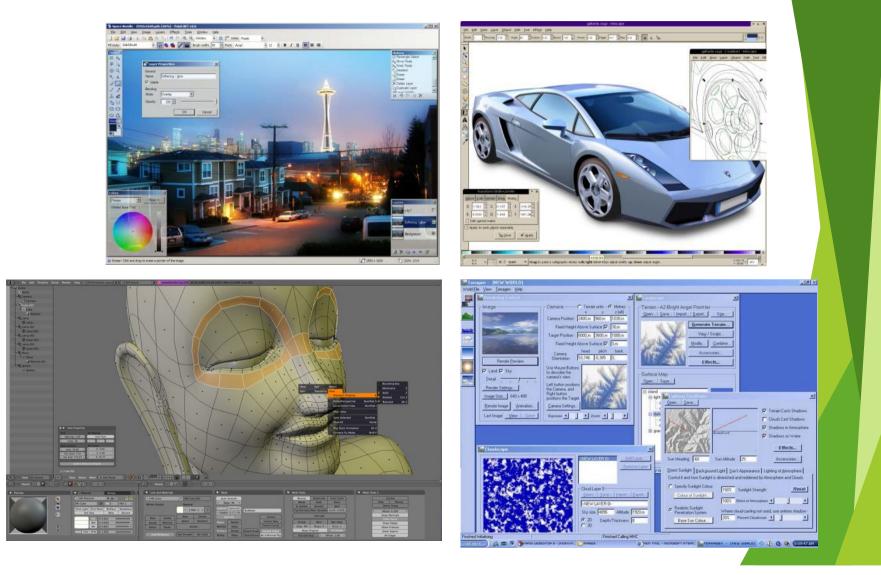
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SARAD@CONT050.COM	A THREE WEEKS AGO		Cc Reina Cabatana; Luka Abrus; Legal Team; Executives
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4:00 PM Friday Unwinder Cafeteria	Aziz Hassouneh; Bonnie Kearney; Come One, Come All. Could you all please remember not to reply all.	5/31/2012	
	Reina Cabatana	8	Bonnie Kearney No items



Office software

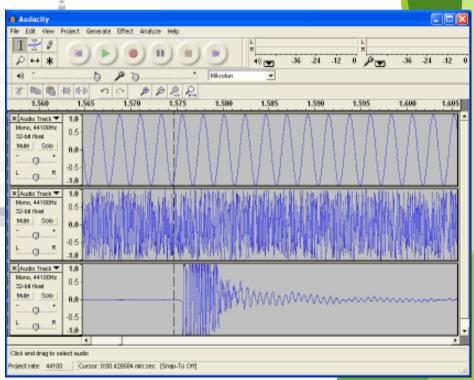


Graphics software



Music software

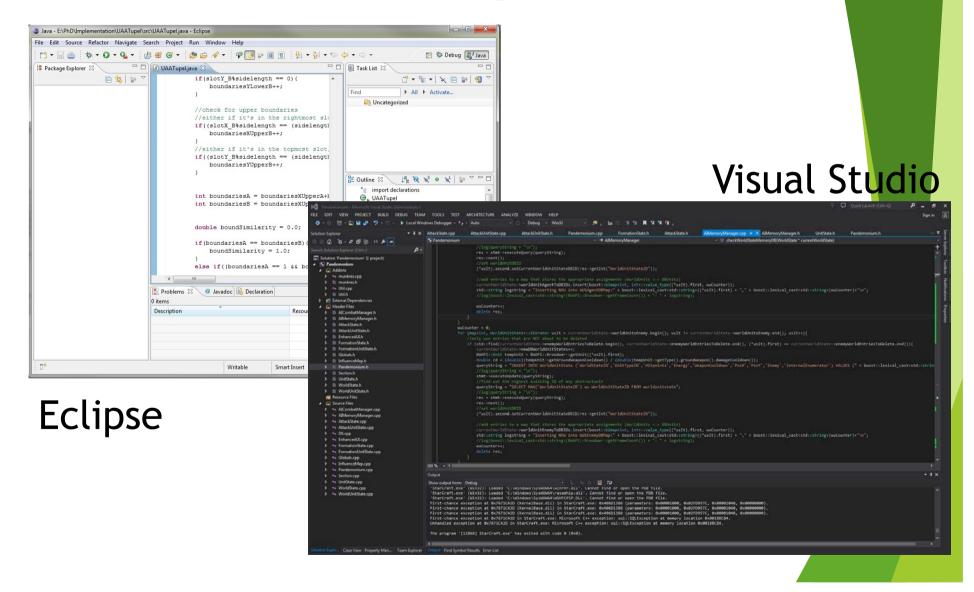
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Security software

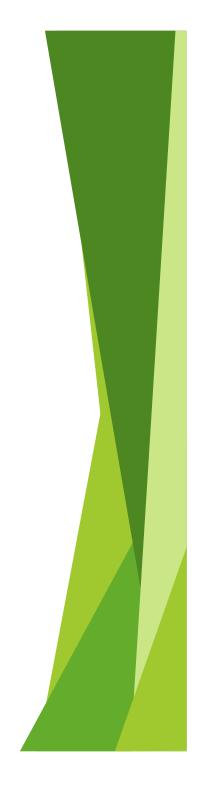


Software development tools



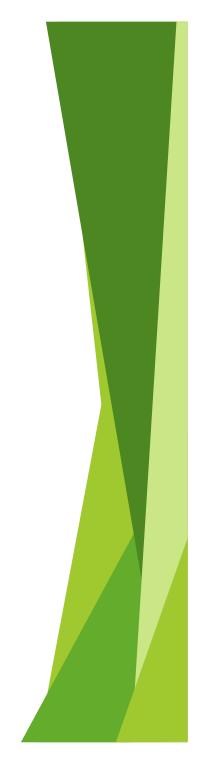


- What kind of licence is best for software you want to give away for free?
- What is one advantage of the CLI and one disadvantage of the GUI?



Answers

- What kind of licence is best for software you want to give away for free?
 - Freeware (no access top source code)
 - Open source software (access to source code)
- What is one advantage of the CLI and one disadvantage of the GUI?
 - CLI: faster for experienced users
 - ► GUI: can be cumbersome for experienced users



Summary

- Software allows users to perform tasks with their computer
- Software is protected by copyright. Users receive a licence to use software
- Proprietary software vs open source software
- CLI vs GUI
- Different kinds of software can be used to perform different tasks

