



Digital Communications

Keeping in touch with the world

Types of Online Communications

- ❖ Email
- ❖ Social Networking
- ❖ Video Conferencing
- ❖ Discussions
 - Bulletin Boards /Forums
 - Group email discussions
 - Blogs



What is Email?

- ❖ Electronic mail– messages sent via computer to a email inbox.
- ❖ Fast and easy communication
 - Usually delivered within seconds
 - ▲ May take hours to days
 - ▲ Transmission problems can slow delivery
 - ▲ Large attachments can slow down delivery
- ❖ Tends to be informal
 - Business letters may start off with Dear Mr.Lum
 - Business email may start off with Hi Kimo



Accessing Email

- ❖ Email software downloads email (pop) or connects to server to display email (imap)
 - Outlook
 - Thunderbird (comes with Firefox web browser)
 - And more
- ❖ Web interface - allows access to email from a browser
- ❖ Phone app – allows access to email from phone



Email addresses

- ❖ Username@domain
 - The username (who email is going to)
 - The domain (what system email is going to)
 - @ separates the two parts
- ❖ Email & Web Addresses are Different!
 - Email always has an @ separating the user name and domain
 - ▲ Heyyou@this.com
 - Web Addresses do NOT have an @
 - ▲ heyyou.this.com



Email Attachments

- ❖ Email designed to deal with text
- ❖ Files can be sent as attachments.
 - Attachments go through a process of coding and decoding the attachment
- ❖ When sending multiple files use compressed folder (.zip file)
 - Smaller & quicker to send
 - ▲ Regular folders can not be attached



Compressed Folder

- ❖ Combine group of files and any folders into one file (zip file)
 - Also maintains folder organization
- ❖ Compressed files should be extracted before using.
 - If opened and edited, might not be able to save the changes



Social Networking

- ❖ Keep in touch with groups of people
- ❖ Build interconnections
- ❖ For some it's the main way to access Web
- ❖ Be aware of privacy settings
- ❖ Potential employers might check
- ❖ Examples
 - LinkedIn (professional networking)
 - Facebook
 - Google Plus
 - My Space



Video Conferencing

- ❖ Communication that provides video and audio in real time
 - May be one-on-one or allow groups of people from various locations to interact
 - Examples:
 - ▲ Skype
 - ▲ Google Hangout
- ❖ Conferencing with voice only is called VOIP (Voice over Internet Protocol)
 - Can provide low cost international calling



Online Discussions

- ❖ Bulletin board, forums, email discussion groups
 - Notes are posted to a discussion area or email
 - Discussion takes place over time
- ❖ Blogs
 - Provide commentary from one person
 - Often allow readers to respond with a comments section



Email & Discussion Tips

- ❖ Don't forward rumor, cute story, etc.
- ❖ Don't spread hoaxes & myths
 - Verify information on sites such as Urban Legend & Snopes
- ❖ Be mindful of attachment sizes
 - Large attachments may slow down delivery
- ❖ Be wary of replying to all be sure you really want everyone to see the message
 - Email - reply to sender versus reply to all
 - Email discussions - know if reply goes only to one person or to whole group.



Be Wary of Phishing Attempts

- ❖ Phishing is an attempt to get you to provide information (particularly financial) for illegal purposes (mostly to obtain your money).
 - Email may look legitimate often use logos from financial institutions
 - Link says one thing, but goes elsewhere.
<http://www.firstbankofhawaii.com>
- ❖ Don't reply via email.
- ❖ Don't click on links within email.





Operating Systems & File Management

Working with files

What is an Operating System?

- ❖ Software that manages a computer's resources
- ❖ Takes care of background operations of the computer
- ❖ Runs applications
- ❖ Controls disk access
 - Allows file manipulation
 - Formatting disks
 - Other disk maintenance



But what's software?

- ❖ Software is the programs that makes our computer hardware work and consists of three types
 - Operating Systems
 - Applications
 - Programming (creates program)
 - ▲ Programming is not covered in this class



Common Operating Systems

- ❖ Personal Computers
 - Windows (75%)
 - Runs on many types of personal computers
 - MAC-OS (20%)
 - For Apple Macintosh computers only
 - Linux (2%)
 - Based on Unix
 - Runs on many types of personal computers
 - ❖ Servers
 - Unix
 - Used on many of the computers that run web servers. Important not
 - Windows Server
 - Used on many of the computers that act as web and file servers
 - ❖ Mobile systems
 - IOS (iphones)
 - Android (most other)
- US: close to 50/50
WorldWide: 20/65

What are Files & Folders?

- ❖ File – stores data on a computer
 - also stores programs and related files
- ❖ Folder – organizes files
 - Can contain files and/or other folders
 - Makes it easier to find files
- ❖ To organize, files & folders can be copied, moved, deleted, renamed.

In the next software assignment you will be asked to enter a code phrase. The phrase is **Folders organize files**



File Names

- ❖ In Windows, filenames may not contain certain special characters.
 - ? - Question marks
 - / \ - Slashes
 - * - asterisk
 - : - colons
 - | - piping symbol
- ❖ Filenames usually also have an extension (file type) which associates the file with a particular program. Sometimes the extension is hidden and you can not see it.
 - .docx - Word 2007
 - .xlsx - Excel 2007
 - .accdb - Access 2007
 - .txt - text file
 - .html - web page

File Naming Conventions

- ❖ Many businesses have file naming conventions to keep files consistent.
- ❖ For instance, a company gets invoices from vendors and might have the following conventions.
 - Vendor name, then the year, 2 digit month & day separated by dashes.
 - ▲ WCC-2015-08-25
 - ▲ When sorted files will be alphabetical by vendor then will be chronological
 - If named WCC-Aug-25-2015, sorting will not be chronological

Finding Files

- ❖ Use the search feature to find "lost" files.
- ❖ Files can be found by
 - File name or part of file name
 - Word or phrase in a file
 - Date the file was last saved
 - Size of the file

File Storage

- ❖ Files are stored on drives
- ❖ Types of storage
 - Hard disk
 - ▲ More reliable than flash drives, tapes, and some other media though can still crash
 - ▲ Internal (cannot be moved easily)
 - ▲ External (can be moved easily)
 - Sometimes slower than internal drives
 - ❖ CD/DVD - recordable
 - Not subject to crashing, but can lose data through scratches, warping
 - ❖ Thumb/Flash Drives
 - Easily lost, stolen.
 - Quality varies.

File Measurement

- ❖ File size is measured in bytes
- ❖ 1 byte is usually 1 character
- ❖ Increments of 1024 are used for measure (10,000,000,000 in binary)
 - Kilobyte is 1024 bytes
 - Megabyte is 1024 kilobytes
 - Gigabyte is 1024 megabytes
 - Terabyte is 1024 gigabytes
- ❖ Often manufacturers round down to 1000, so you get less than listed.

Disks formatting

- ❖ Most disk today are preformatted
- ❖ Sometimes disks need to be re-formatted
 - prepares disk for use
 - creates file allocation table
 - creates file directory may
 - creates a boot sector/boot files
 - checks disk for bad sections and marks them as un-writable
- ❖ Formatting a disk wipes out all the files. Useful if you have a virus or other problem.

Disk Checking

- ❖ Hard disks should be checked regularly
 - Error Checking
 - ▲ Checks to see if the file structure is okay
 - ▲ Checks to see if the disk is okay
 - Defragmentation
 - ▲ With writing and rewriting of files, files can become fragmented (stored in several locations on disk)
 - ▲ Defragmentation puts files together and makes the disk run more efficiently

Data backup

- ❖ What is data backup?
 - Creating backup copies of files to be stored elsewhere
- ❖ Why backup?
 - Magnetic media can lose data
 - Hard disks crash (fail)
 - Any media can be lost, damaged, stolen
 - Protect against disasters
 - ▲ Storms
 - ▲ Fires
 - ▲ Floods



Creating Backups

- ❖ To create reliable backup use a
 - Secondary hard disk
 - CD or DVD writeable/recordable
 - Online backup
- ❖ Temporary or short term back up
 - Email file to yourself (small files only)
 - Flash drive
- ❖ Off site storage
 - Copy of important data should be stored at another location (Not in the same building)
 - Protects data from major catastrophe



Windows / Mac Differences

Task	Windows	Mac
Bring up short-cut menu		• If you have a button mouse: 
	• Some Windows keyboards have a key which does the same thing	• Else 
Some keyboard shortcuts start with holding this key and pressing a letter		
	(Examples: CTRL-C to copy)	Note: Macs have a control key, but it doesn't do the same thing that a Windows control key does.

Windows / Mac Differences

Task	Windows	Mac
Erases to left of cursor		
		• Note: It does not work like the Windows Delete key
Erases to right of cursor or deletes what is selected		
	(Often located above arrow keys)	Macs don't have the equivalent of the Windows Delete key. For some tasks backspace (Mac Delete) may work.
	If switching to Windows from Mac and instructions say press delete do not press the backspace key.	For other tasks, use Ctrl-click to come up with a short-cut menu

Windows / Mac Differences

Task	Windows	Mac
Location of Application Menu	• On top of the current window. Always tied to window it belongs to.	• On top of the screen. If top of window is not at top of screen, there will be space between menu & window. This can be confusing if more than one window is open.
Function Key short cuts	• Press specified F1, F2, F3, etc • On Windows Laptops press Fn button while pressing number key	• Mac function keys do not do the same thing as Windows function keys. • Use menu items or other keyboard combinations



Windows / Mac Differences

Task	Windows	Mac
Take a screen shot		
	• Copies screen, needs to be pasted somewhere Win 8 & above • Windows key -Print Screen creates picture in your Pictures/Screenshot folder	• Creates an image file often on your desktop
Stop a program that has frozen up	• CTRL-ALT-DEL	• CMD-OPTION-ESC





Information Technology Ethics

In the digital world

What is Ethics

- ❖ Thinking about the effects of your actions and doing what helpful rather than hurtful.
- ❖ How do we know if something is ethical or not?
 - Apply the ethical tests of
 - ▲ Universality
 - ▲ Reversibility
 - ▲ Transparency
 - As part of these tests, think of the consequences for everyone involved



Ethical Tests

- ❖ What are the three ethical tests?
 - Universality - Do you think it is okay for everyone to behave like that?
 - ▲ Consequences - What if everyone did this? What would be the consequences for everyone else?
 - Reversibility – If someone did this to you, would you be okay with it?
 - ▲ Do you want to be treated the same way?
 - Transparency – Would you still do this if everyone knew about it?
 - ▲ If a TV camera was pointed at you, would you still do this action?



IT Ethical Topics

- ❖ Academic dishonesty
- ❖ Copyright infringement
- ❖ Ethics in communications
 - Responsible use of email
 - Spam
 - Spread of inaccurate information
- ❖ Ethics in search engine optimization



Academic Dishonesty

- ❖ A growing problem on college campuses
- ❖ Includes cheating, plagiarism, and other such activities.
 - Plagiarism is copying the work of someone else and turning it in as your own.
 - Cheating is unauthorized help during examinations and assignments



Academic Dishonesty (Cont)

- ❖ Ease of file sharing and web searching has made this an IT ethics problem.
 - Students copy papers, presentations or other work from the Web and turn it in as their own work.
 - ▲ Not only is this plagiarism, but it might be copyright infringement as well.
- ❖ Instructors have tools and resources to route out this type of work.



Applying the 3 Ethical tests

- ❖ Let's look at the three Ethical tests to determine if academic dishonesty is unethical behavior
- ❖ Something that fails all 3 tests is definitely unethical.



Applying Test of Universality

- ❖ Universality – Do you think it is okay for everyone to be dishonest in academics?
 - Consequences of everyone being academically dishonest
 - ⤴ Educational degrees become worthless
 - ⤴ Unemployment would rise as qualified people could not be found and economy would falter
- ❖ If it's not okay for everyone, then it fails this ethical test.



Applying Test of Reversibility

- ❖ Reversibility – If someone did this to you, would you be okay with it?
 - How would you feel if you were a teacher and found out that a student cheated?
 - ⤴ It's not a good feeling.
- ❖ If you won't want someone doing this to you, then it fails this ethical test.



Applying Test of Transparency

- ❖ Transparency – Would you still do this if everyone knew about it?
 - Would you cheat if your family knew?
 - Would you still cheat if TV camera was pointed at you and everyone could see you cheating?
- ❖ If you wouldn't do this in front of everyone, then it fails this ethical test.



Know the Consequences

- ❖ What are the consequences of Academic Dishonesty
- ❖ The following are possible consequences for the student
 - Bad grade on an assignment
 - Failure of the course
 - Expulsion from the college
 - Loss of job opportunities
- ❖ Other consequences
 - Devalues the time and energy of the teacher
 - If many students cheat, then it devalues the whole school and could cause loss of accreditation.
 - Degrees from an unaccredited institution are not as valuable.

Copyright Infringement

- ❖ Unauthorized copying of text, software, graphics, multimedia including music & videos is illegal
- ❖ Illegal copying of software, music & video is often called piracy.
 - Piracy is considered to be stealing.
 - ⤴ Popular entertainment items such as music and movies are illegally copied and uploaded for others to download



Piracy

- ❖ Piracy is most likely the #1 crime on the internet
 - Many people do not realize it's a crime
- ❖ The entertainment industry has begun to seek damages from companies and individuals who infringe on their copyright.



Fair Use

- ❖ Legal use of clips or limited portion of a work for review, critic, educational purposes
 - Quotes can be added to research papers, but always make sure it is indicated as a quote.
- ❖ References should be cited always
- ❖ General rule of thumb limits
 - Can't use the entire work.
 - Written work – 10% or 1,000 words (which ever is less)
 - Music/video – 10% or 30 seconds (which ever is less)
 - Film/TV – 10% or 3 minutes (which ever is less)
 - Your work can not be made up of just fair use elements

Legal or Not?

- ❖ A common misconception is that it is okay to copy if you are not making a profit from the copy

Copying someone else's music, videos, software, etc for your use	illegal
Copying your music, software, videos, software, etc for someone else's use	illegal
Making copies of something you already own as a means of backup and not for sharing	legal
Remixing Depends upon amount used & purpose	Questionable – most likely illegal
Use of limited amount for review or educational purposes	legal under fair use.

Responsible Communications

- ❖ Mind your attachment sizes in email
 - Use compressed (zip) folders to make your files smaller
 - Use alternative file types.
 - ↳ JPG or GIF instead of BMP/TIF for images
- ❖ Don't forward everything to everyone
- ❖ Verify information you are sending on to others
 - Stop hoaxes & myths from spreading
 - ↳ Be responsible, don't spread them further
- ❖ Don't send spam



Spread of Inaccurate Info

- ❖ Hoaxes and myths are often spread via email & online postings
 - Verify information before posting or emailing to others
 - Snopes is one site that verifies if information is a hoax or a myth or if it is accurate
- ❖ Inaccurate information can added to sites such as Wikipedia, and other publicly edited sites.
 - Be responsible when posting
 - Verify information you find



Spam

- ❖ Unsolicited email or online discussion usually advertising something.
 - Never send spam
 - If you receive questionable emails delete without opening
- ❖ Slamming
 - Stolen email addresses used to send spam
 - If you receive a number of returned undeliverable email that you haven't sent:
 - ↳ Report it to your ISP
 - ↳ Consider changing your email address immediately.



Search Engine Optimization

- ❖ Some web masters seek out ways to beat the search engines in finding ways to get their sites listed higher on the listings
 - Black Hat SEO
- ❖ Others feel that in order for the search engines to work properly this should be avoided
 - White Hat SEO
- ❖ Be aware how these practices affect your web searches



Summing Up

- ❖ Think about the effects of your actions.
- ❖ Be helpful instead of hurtful
- ❖ Be aware of the laws and regulations that govern technology.
- ❖ Be safe!
- ❖ Use technology wisely and ethically.

Assignment – Ethical discussion





Introduction to Applications

Office Suites & Common Skills

Applications

- ❖ Help us perform a particular type of task on a computer
- ❖ Many different types of applications exist.
 - Productivity (Office type) ➢ Creativity
 - Entertainment ➢ Utility
 - Communications ➢ And more
- ❖ Applications may be grouped together to form an application suite
 - Applications that complement each other, but are still separate programs.



Office Suites

- ❖ What is an Office Suite?
An office suite groups together programs that are generally used in offices such as:
 - **Word processing** allows one to work with words - enter, edit, format text and incorporate graphics.
 - **Spreadsheets** work with number and calculations.
 - **Presentations** software prepares slide shows for presentations
 - **Database** allows one to enter, organize and reorganize data and create reports using this data.
- ❖ Microsoft Office is one such suite (there are others such as iWork & Open Office)

Office Suites

- ❖ Microsoft Office is the most popular, but it is not the only show around. Some Office suites and list of applications in each

Type of Software	Microsoft Office	Google Drive	iWork	Open Office
Word Processing	Word	Document	Pages	Writer
Spreadsheet	Excel	Spreadsheet	Numbers	Calc
Presentation	PowerPoint	Presentation	Keynote	Impress
Database	Access			Base
Other	Outlook	Drawing Form		Draw



What is the difference between Microsoft Windows and Microsoft Office?

- ❖ *Microsoft* is the name of the company which both
 - *Microsoft Windows* is the operating systems. It is needed to run other programs.
 - ▲ *Windows* does not come with *MS Office*
 - *Microsoft Office* is one of a number of different business suites that will run under the *Windows* operating system and is also available for Mac OS



Common Skills

- ❖ Many applications have some common aspects based on common user access (CUA) developed by IBM
- ❖ These common features make it easy to use various new programs
- ❖ Programs share some common menu items, window items, keyboard shortcuts & mouse maneuvers, but also may have unique items not in common with other applications
- ❖ The current version of MS Office for Windows departs somewhat from the CUA

