

Introduction to Computer CC111

Week 15

Social Issues

Overview

- Various types of intellectual property rights
- A discussion of ethics, including ethical use of copyrighted material, ethical uses of resources and information, unethical use of digital manipulation, and ethical business practices
- The impact of computers on our physical and emotional health
- Issues related to the access of technology
- The impact of computers on our environment
- A look at legislation related to these issues

Intellectual Property Rights

- Intellectual Property Rights
 - Rights to which creators of original creative works are entitled
 - Indicate who has the right to use, perform, or display a creative work
 - Indicate how long the creator retains rights to the property
 - Music, movies, paintings, books of art and poetry, etc.

Intellectual Property Rights

- Copyrights
 - Form of protection available to the creator of original artistic or literary works
 - Last until 70 years after creator's death
 - For corporate copyrights or anonymous works, last 95 years from date of publication or 120 years from date of creation, whichever is shorter
 - Can be registered with U.S. Copyright Office

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BOOK COPYRIGHT NOTICES

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WEB SITE COPYRIGHT NOTICES

Intellectual Property Rights

- Digital Watermarks
 - Subtle alteration of digital content that is not noticeable but that can identify the copyright holder
- Digital Rights Management (DRM) Software
 - Used to protect and manage the rights of creators of digital content such as art, music, photographs, movies
 - Can limit who can view, print, or copy a document
 - Can control use of downloaded content (number of devices a file can be copied to, expiration of video-on-demand movie, etc.)

Intellectual Property Rights

- Trademarks
 - A word, phrase, symbol, or design that identifies goods or services
 - Trademark used to identify a service is called a service mark; service marks claimed but not registered may use the sm mark
 - Trademarks claimed but not registered may use the TM mark; registered trademarks use the [®] mark
 - Includes protection for domain names
 - Domain name disputes can be brought to the World Intellectual Property Organization (WIPO)

Intellectual Property Rights

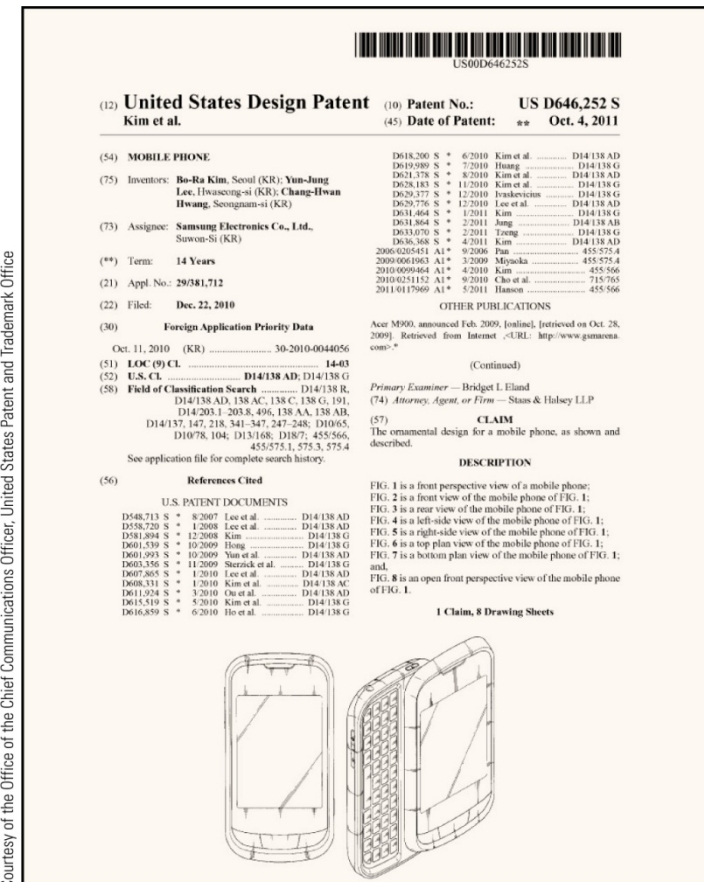


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Intellectual Property Rights

- Patents
 - Protect inventions
 - Last for 20 years
 - Can also protect a business practice or procedure
 - Priceline.com's name-your-own-price
 - Amazon.com's one-click purchase
 - Expensive and difficult to obtain but can be very lucrative

Courtesy of the Office of the Chief Communications Officer, United States Patent and Trademark Office



Ethics

- Ethics
 - Overall standards of moral conduct
 - Can vary with individual and religious beliefs, country, race, or culture
 - Personal Ethics
 - Guide an individual's personal behavior
 - Business Ethics
 - Guide a business's policies, decisions, and actions
 - Computer Ethics
 - Concern moral conduct related to computer use
 - Individuals and businesses need to make ethical decisions every day

Ethics

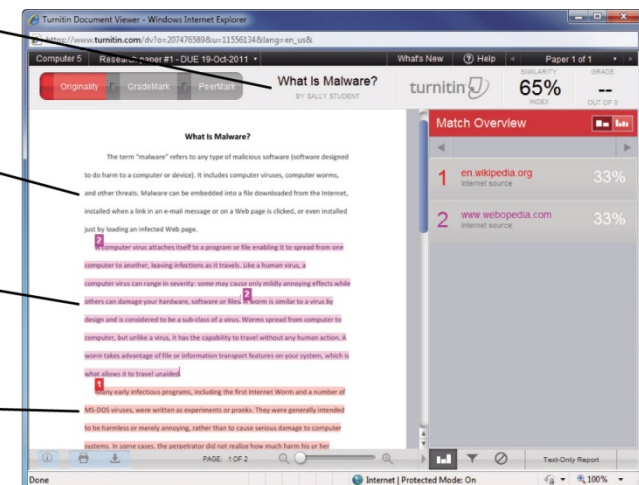
- Ethical Use of Copyrighted Material
 - Books and Web-based articles
 - Need to properly credit sources to avoid plagiarism
 - Strict consequences for plagiarism
 - Online tests for plagiarism are available and widely used by schools

Instructor submits electronic versions of student papers; the results are usually available online almost immediately.

The black text was correctly identified as being original.

The purple text was correctly identified as being taken from a Wikipedia online article.

The red text was correctly identified as being taken from a Webopedia.com definition.



Ethics

PLAGIARISM

A student including a few sentences or a few paragraphs written by another author in his term paper without crediting the original author.

A newspaper reporter changing a few words in a sentence or paragraph written by another author and including the revised text in an article without crediting the original author.

A student copying and pasting information from various online documents to create her research paper without crediting the original authors.

A teacher sharing a poem with a class, leading the class to believe the poem was his original work.

NOT PLAGIARISM

A student including a few sentences or a few paragraphs written by another author in his term paper, either indenting the quotation or placing it inside quotation marks, and crediting the original author with a citation in the text or with a footnote or endnote.

A newspaper reporter paraphrasing a few sentences or paragraphs written by another author without changing the meaning of the text, including the revised text in an article, and crediting the original author with a proper citation.

A student copying and pasting information from various online documents and using those quotes in her research paper either indented or enclosed in quotation marks with the proper citations for each author.

A teacher sharing a poem with a class, clearly identifying the poet.

Ethics

- Music
 - Debate began with Napster
 - Concerns still exist about P2P file sharing sites
 - Downloading a music file from a P2P site without compensating the artist and record label is violation of the copyright law and an unethical act
 - Copying purchased songs for personal, non-commercial use usually considered within the fair use concept
 - DRM controls can impact downloaded files, purchased CDs, etc.
 - Many downloads today are DRM-free MP3 formats

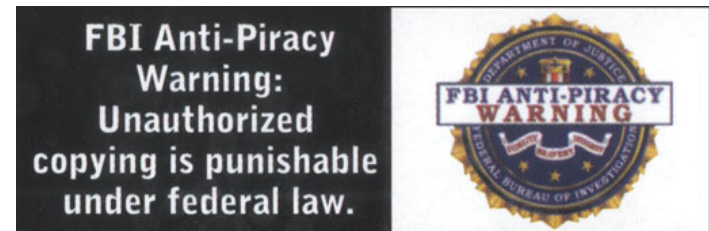
Ethics

- E-books
 - In 2011, sales of e-books at Amazon.com exceeded print books
 - Piracy of e-books is growing quickly



Ethics

- Movies
 - Movie piracy is high (illegal copies, recording pre-release movies to create DVDs, etc.)



Ethics

- DRM controls are found on many legally downloaded movies
 - Can prevent movie from being copied to another medium
 - Can allow movie to be used only for a specified period of time
- MPAA (Motion Picture Association of America) recently began pursuing civil litigation for copyright violations for against movie pirates
 - Mainly goes after those who create illegal DVDs
 - Also pursues people sharing movies illegally on the Internet

Ethics

- Ethical Use of Resources and Information
 - Ethical Use of School or Company Resources
 - Code of Conduct
 - Policy that specifies allowable use of resources by students or employees
 - Students and employees should be familiar with what is considered acceptable
 - Code of Ethics
 - Policy, typically for an industry or organization, that specifies overall moral guidelines adopted by that industry or organization

Ethics

- Ethical Use of Employee and Customer Information
 - Businesses need to decide what is ethical use of employee and customer information
- Most business schools are incorporating business ethics courses into the curriculum
 - Questions about effectiveness of such courses are ongoing
- Some businesses now require ethics training for their employees

Ethics

- Cheating and Falsifying Information
 - Cheating at high schools and colleges is rampant
 - Often done with the Internet and mobile phones
 - Can be reduced by academic honor codes

Ethics

- Résumé padding is considered unethical by most companies
 - Many companies will terminate employees who were hired based on falsified résumés or applications

Ethics

- Computer Hoaxes and Digital Manipulation
 - Computer Hoaxes
 - An inaccurate statement or story spread through the use of computers
 - Often sent via e-mail
 - Often related to viruses, health issues, political issues
 - Consider researching before passing on to others

Ethics

- Digital Manipulation
 - Digitally altering text, images, photographs, music, and other digital content
 - Copyright concern
 - Can be used to misquote people, repeat comments out of context, create false or misleading photographs
 - Some beneficial ethical uses (aging photos of runaways and missing children, altering photos of wanted criminals, etc.)
 - Use by media is more controversial

Ethics

- Vaporware
 - Announced products that do not exist
- Workplace Monitoring
 - Inform employees of the types of monitoring that may occur
 - Especially in countries other than the United States

Ethics

– Cultural Considerations

- Ethics vary within a country as well as from country to country
- Some acts may be socially acceptable or ethical in one country but not another
- Laws also vary from country to country
- Individuals and businesses need to consider both legal and ethical issues in global transactions
- Some business schools and corporations are including diversity and cross-cultural training

Computers and Health

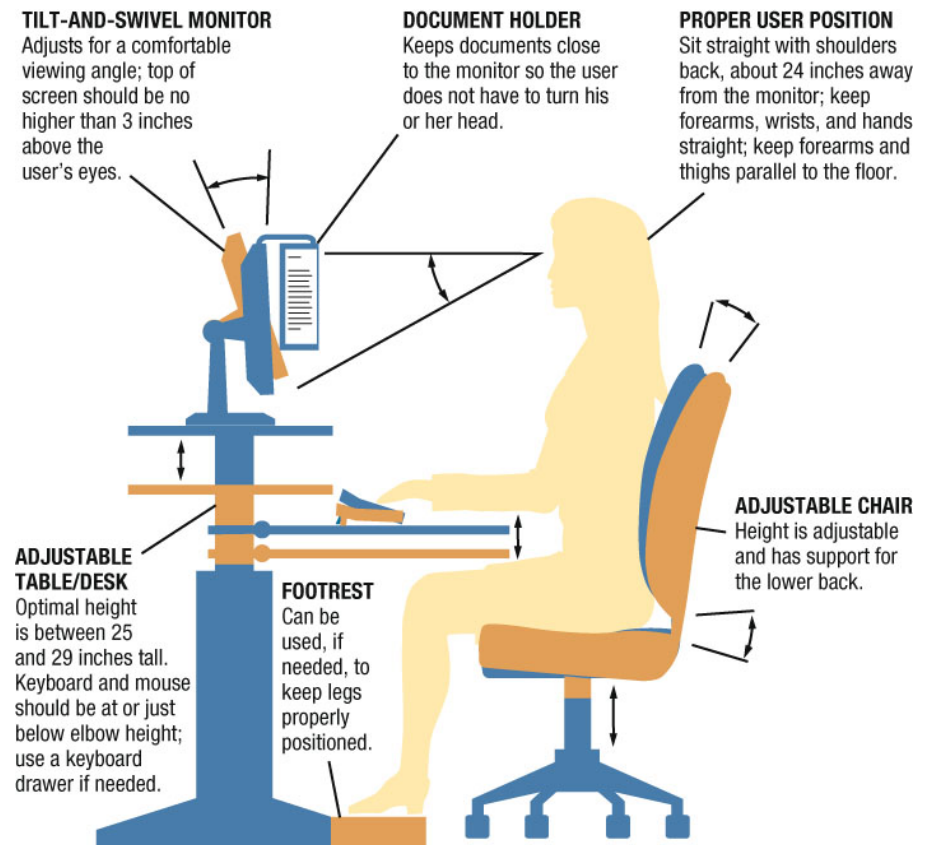
- Physical Health
 - Computer use can cause physical injuries
 - Eyestrain
 - Blurred vision
 - Fatigue
 - Headaches
 - Wrist and finger pain
 - Repetitive Stress Injury (RSI)
 - Carpal tunnel syndrome (CTS) (keyboard use)
 - DeQuervain's tendonitis (mobile device keyboard and thumbpad use)

Computers and Health

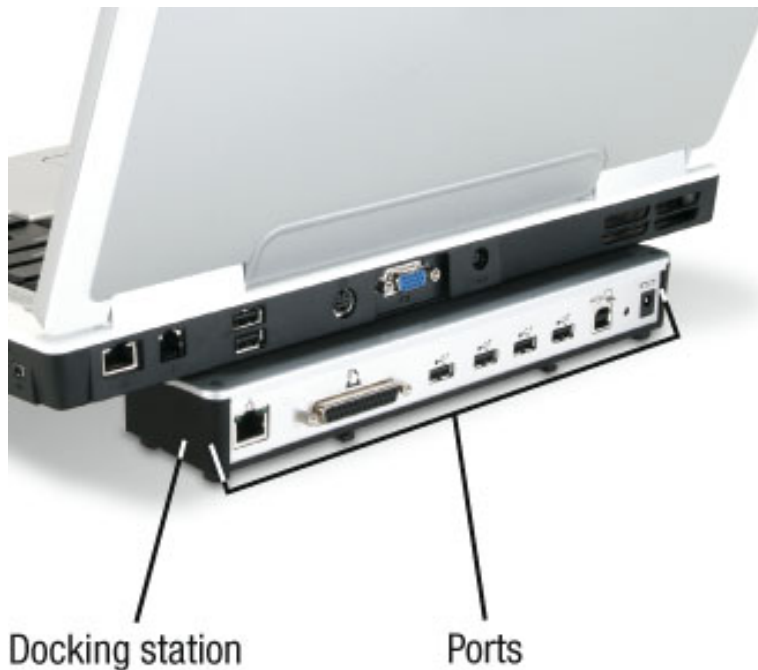
- Computer vision syndrome (CVS)
- Backaches
- Heat from laptops
- Hearing loss from headphones
- Text messaging while driving
- Possible radiation risks from wireless devices

Computers and Health

- What is Ergonomics?
 - The science of fitting a work environment to the people who work there
 - Using good workspace design principles can help avoid physical problems



Computers and Health



DOCKING STATIONS

Contain a variety of ports; when the portable computer is connected to the docking station, the devices attached to these ports can be used.



NOTEBOOK STANDS

Elevate a notebook's display screen; if the notebook stand does not contain USB ports, devices will connect directly to the notebook stand.

Computers and Health

OCCASIONAL USERS

Sit with the computer on a table and position it for comfortable wrist posture. If no table is available, use a laptop desk or notebook cooling stand to protect your legs from the computer's heat.

Adjust the screen to a comfortable position, so you can see the screen as straight on as possible. If you have a portable notebook stand, use it to elevate the display screen for easier viewing.

Bring a travel keyboard and mouse to use with the computer, whenever possible.

When purchasing a portable computer, pay close attention to the total weight of the system (computer, power supply, additional hardware, etc.) if you will be using the computer primarily while traveling; purchase a lightweight system to avoid neck and shoulder injuries when carrying the computer from one location to another.

FULL-TIME USERS

Sit with the computer on a desk or table and position it for comfortable wrist posture if you won't be using a separate keyboard and mouse.

Elevate the computer so the screen is at the proper height, or connect the computer to a stand-alone monitor instead of using the computer's built-in display; consider using a docking station or notebook stand.

Use a separate keyboard and mouse, either attached directly to the computer or to a docking station or notebook stand.

When purchasing a portable computer, pay close attention to the size and clarity of the monitor, unless you will be using a separate stand-alone monitor, and pay close attention to the keyboard design, unless you will be using a separate keyboard.

Computers and Health

- Ergonomic Hardware
 - Ergonomic keyboards
 - Trackballs
 - Document holders
 - Antiglare screens
 - Keyboard drawers
 - Wrist supports
 - Computer gloves

Computers and Health



ERGONOMIC KEYBOARDS



TRACKBALLS



DOCUMENT HOLDERS



ANTIGLARE SCREENS



KEYBOARD DRAWERS



WRIST SUPPORTS



COMPUTER GLOVES

Computers and Health

– Good User Habits and Precautions

CONDITION	PREVENTION
Wrist/arm/hand soreness and injury	<ul style="list-style-type: none">➤ Use a light touch on the keyboard.➤ Rest and gently stretch your fingers and arms every 15 minutes or so.➤ Keep your wrists and arms relaxed and parallel to the floor when using the keyboard.➤ When using a device with a small keyboard, type short messages, take frequent breaks, and use a separate keyboard whenever possible.➤ Use an ergonomic keyboard, ergonomic mouse, computer gloves, and other ergonomic devices if you begin to notice wrist or hand soreness.
Eyestrain	<ul style="list-style-type: none">➤ Cover windows or adjust lighting to eliminate glare.➤ Concentrate on blinking your eyes more often.➤ Rest your eyes every 15 minutes or so by focusing on an object in the distance (at least 20 feet away) for one minute and then closing your eyes for an additional minute.➤ Make sure your monitor's brightness and contrast settings are at an appropriate level.➤ Use a larger text size or lower screen resolution, if needed. You should be able to read what is displayed on your monitor from three times the distance at which you normally sit.
Sore or stiff neck	<ul style="list-style-type: none">➤ Use good posture.➤ Place the monitor and any documents you need to refer to while using your computer directly in front of you. Use a document holder if possible.➤ Adjust your monitor to a comfortable viewing angle with the top of the screen no higher than 3 inches above your eyes.➤ Use a telephone headset if you spend a significant amount of time each day on the telephone.

Computers and Health

Backache;
general fatigue

- Use good posture and adjust your chair to support your lower back; use an ergonomic chair, if needed.
- Use a footrest, if needed, to keep your feet flat on the floor.
- Walk around or stretch briefly at least once every hour.
- Alternate activities frequently.
- When traveling with a computer, bring a lightweight notebook or netbook computer and carry only the essentials with you.

Ringling in
the ears;
hearing loss

- Turn down the volume when using headphones (you should be able to hear other people's voices).
- Wear over-the-ear-headphones instead of earbuds.
- Limit the amount of time you use headphones or earbuds.
- Use external speakers instead of headphones when possible.

Leg discomfort
or burns

- Use a laptop desk, cooling stand, or other barrier between a portable computer and your legs when using a computer on your lap.

Computers and Health

- Burnout
 - A state of fatigue or frustration brought on by overwork
 - Early Signs
 - Feelings of emotional and physical exhaustion
 - No longer caring about a project that was once exciting
 - Irritability
 - Feelings of resentment about amount of work to be done

Computers and Health

- Suggested Solutions
 - Reevaluate schedule, priorities, and lifestyle
 - Take a break or get away for a day
 - Say no to additional commitments
 - Develop healthy food and exercise routines
- Internet and Technology Addiction
 - Problem of overusing, or being unable to stop using, the Internet
 - Interferes with normal living
 - Causes severe stress to family and other loved ones

Computers and Health

Signs of internet addiction

Courtesy of Dr. Kimberly Young, Director of the Center for Internet Addiction Recovery

Do you feel preoccupied with the Internet (think about previous online activity or anticipate next online session)?

Do you feel the need to use the Internet with increasing amounts of time in order to achieve satisfaction?

Have you repeatedly made unsuccessful efforts to control, cut back, or stop Internet use?

Do you feel restless, moody, depressed, or irritable when attempting to cut down or stop Internet use?

Do you stay online longer than originally intended?

Have you jeopardized or risked the loss of a significant relationship, job, educational, or career opportunity because of the Internet?

Have you lied to family members, a therapist, or others to conceal the extent of involvement with the Internet?

Do you use the Internet as a way of escaping from problems or of relieving a dysphoric mood (e.g., feelings of helplessness, guilt, anxiety, depression)?

Computers and Health

- Growing problem in many countries
- Often related to e-mail, IM, shopping, gaming, social networking, and pornography
- Can be addicted to other types of technology (video games, etc.)
- Can result in loss of relationships, job loss, academic failure, health problems, financial consequences, child custody, suicide, and more
- Can be treated similar to other addictions

Environmental Concerns

- Green Computing
 - The use of computers in an environmentally friendly manner
 - Energy consumption and heat are key concerns today
 - ENERGY STAR Program
 - Developed to encourage the development of energy-saving devices
 - Eco-labels also used in other countries

FIGURE 16-29

Eco-labels.



UNITED STATES



EUROPEAN UNION



KOREA



BRAZIL



AUSTRALIA

Environmental Concerns

- Energy Consumption and Conservation
 - Power consumption and heat generation by computers are key concerns for businesses
 - More powerful computers use more energy and run hotter, which makes increases cooling costs
 - Servers are especially power-hungry

Environmental Concerns

- Energy-saving features on computer hardware
 - Computers and printers that go into a very low-power sleep mode when idle
 - Low-power consumptive chips and boards
 - High-efficiency power supplies
 - Energy-efficient flat-panel displays
 - Liquid cooling systems

FIGURE 16-30

Energy usage monitors. This monitor displays in real time the amount of electricity (in kilowatt-hours or approximate cost) a connected device is using.



Courtesy of P3 International Corporation

Environmental Concerns

- Alternate Power
 - Solar power
 - Solar panels convert sunlight into direct current (DC) electricity, which is then stored in a battery
 - Solar panels to be built into covers of notebook computers will be both solar-powered and hand-powered chargers and can be used with portable computers, mobile phones, and other small portable devices
 - Portable fuel-cell chargers

Environmental Concerns



SOLAR-POWERED CHARGERS



SOLAR COMPUTER BAGS



HAND-POWERED CHARGERS

Environmental Concerns

- Green Components

- Computers run quieter and cooler
- More recyclable hardware and packaging being used
- Amount of toxic chemicals in personal computers being reduced
- Recycled plastics being used in some mobile phones

Environmental Concerns

- Recycling and Disposal of Computing Equipment
 - Paper-based trash
 - Paperless office basically a myth
 - Almost one-billion pieces of paper a year generated by printers world wide
 - Utilities designed to reduce paper consumption
 - GreenPrint, PrintWhatYouLike.com
 - » Eliminate images, blank pages, non-critical content in order to print on the least amount of paper as possible

Environmental Concerns

- E-trash (e-waste)
 - Disposable products (used toner cartridges, discarded CDs and DVDs, other storage media, disposable digital cameras)
 - Discarded hardware (old computers, mobile phones, TVs, etc.)



Basil Action Network

Environmental Concerns

- Many elements found in hardware are dangerous
 - Arsenic, lead, mercury, cadmium
 - Much ends up in municipal landfills not designed for toxic waste
- Much e-waste from developed countries is shipped to developing countries such as Nigeria, China, and India
- Many organizations are working to find ways to protect people and the environment from future contamination

Environmental Concerns

- Proper recycling is essential
 - Some recycling centers will accept computer equipment
- Expired toner and ink cartridges can sometimes be returned to manufacturer or exchanged when purchasing new cartridges
- Using recharged printer cartridges saves consumers' money and helps reduce e-waste in landfills

Environmental Concerns

- Donate obsolete equipment to schools and other organizations
- For security and privacy reasons, all data should be completely removed before disposal or donation