Chapter 13:

Intellectual Property Rights, Ethics, Health, Access, and the Environment
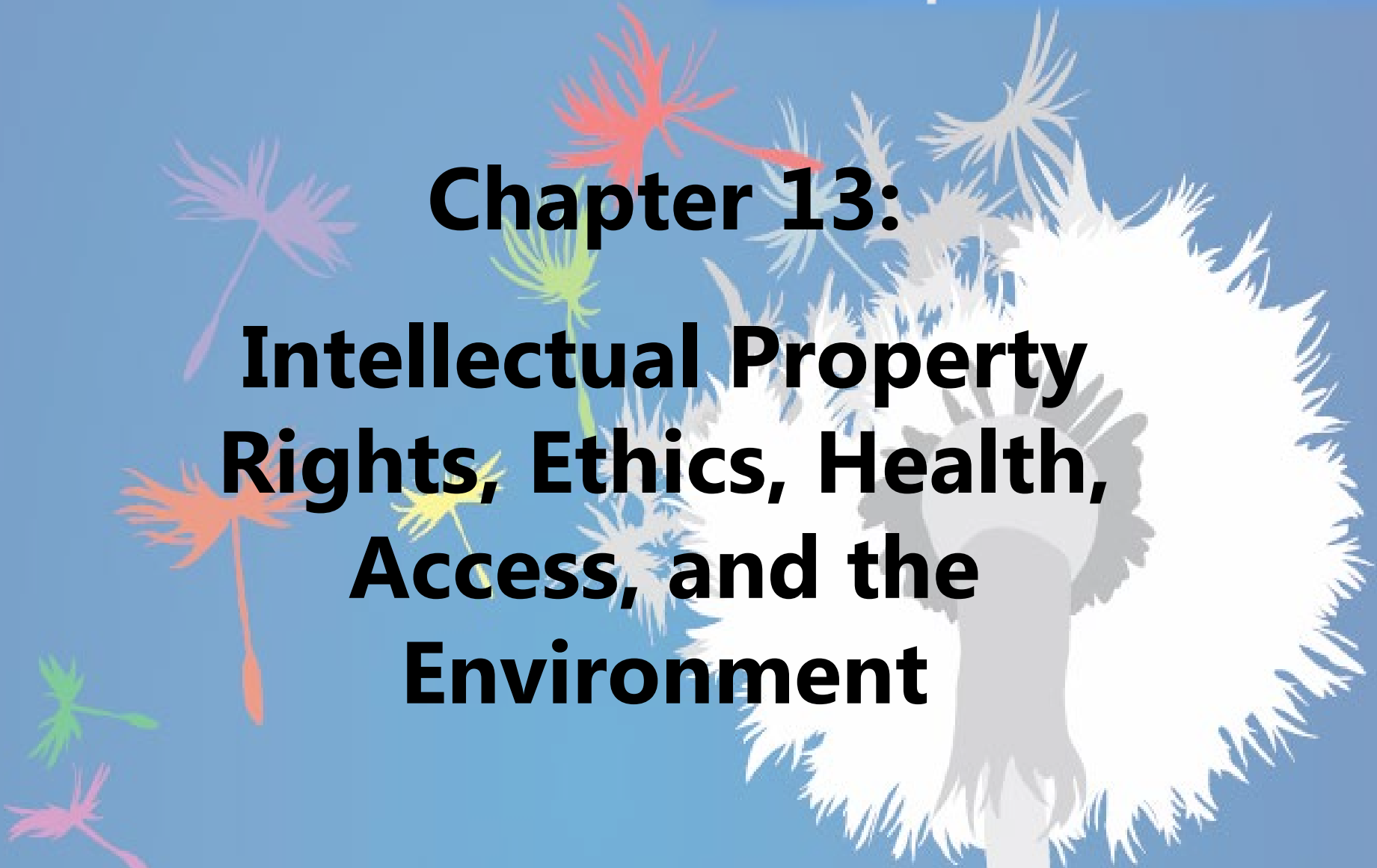
Intellectual Property Rights

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

  Protections => Copyrights, Trademarks, Patents, Trade Secrets (not in text), DRM Software, Digital Watermarks, Other Legislation

Copyrights

- Copyrights
  - Protection available to the creator artistic or literary works
  - Lasts 70 years after creator's death
  - Corporate copyrights/anonymous works, lasts 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

FIGURE 16-1
Copyright statements.

Trademarks

- Trademarks
  - Word, phrase, symbol, or design that identifies goods or services
    - Trademark that identifies service => service mark service marks not registered may use the ^{sm} mark
    - Trademarks claimed but not registered use the ™ mark
    - Registered trademarks use the ® mark
    - Includes protection for domain names
      - Cybersquatting and typosquatting
    - Domain name disputes can be brought to the World Intellectual Property Organization (WIPO)

Patents

- 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

FIGURE 16-4

Patents. The patent shown here is for a new mobile phone.

Trade Secret (not in text)

- Trade secrets are intellectual property
  - May be formulas, practices, processes, designs, instruments, etc.
  - Not generally known to the public
  - Has economic benefit
  - Holder makes efforts to maintain secrecy

Extra Protections

- Protections
  - Digital Watermarks
    - Subtle alteration of digital content
      - not noticeable
      - identifies the copyright holder
  - Digital Rights Management (DRM) Software
    - Protects and manages the rights of creators of digital content such as art, music, photographs, movies
    - Limits who can view, print, or copy a document
    - Control use of downloaded content
      - number of devices a file can be copied to
      - expiration of video-on-demand movie, etc.

Related Legislation

- Additional legislation to protect intellectual property rights, such as:
  - Family Entertainment and Copyright Act of 2005 (FECA)
  - U.S. Anticybersquatting Consumer Protection Act
  - Digital Millennium Copyright Act (DMCA)
    - Protects Website content

Ethics – Definition/Classifications

- Ethics
  - Overall standards of moral conduct
  - 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
- Ethical legislation is difficult to pass
  - The 1998 amendment to Section 508 of the Rehabilitation Act requires federal agency information be accessible to persons with disabilities

Personal Ethical Use

- 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.

FIGURE 16-6
Results of an online originality test.

Courtesy of iParadigms LLC
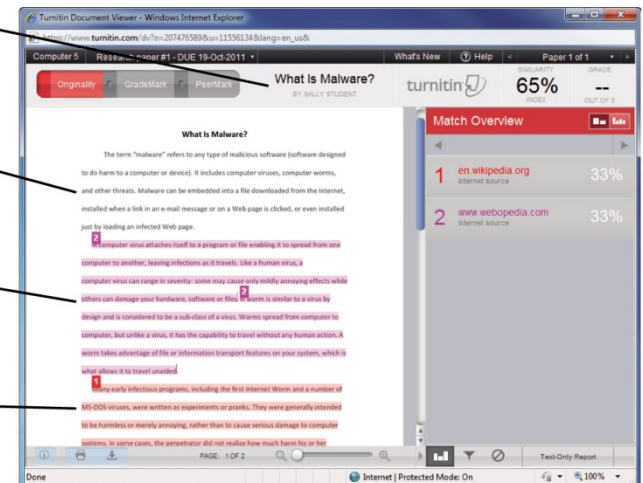
Academic Dishonesty - Plagiarism

PLAGIARISM	NOT 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 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 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 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 to create her research paper without crediting the original authors.	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, leading the class to believe the poem was his original work.	A teacher sharing a poem with a class, clearly identifying the poet.

FIGURE 16-5

Examples of what is and what is not normally considered plagiarism.

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Music

- Music
  - Debate began with Napster
    - DRM controls can impact downloaded files, purchased CDs, etc.
  - 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

eBooks

– E-books

- In 2011, sales of e-books at Amazon.com exceeded print books

- Piracy of e-books is growing quickly

FIGURE 16-7

Legal e-books are widely available online.

Oleksiy Maksymenko Photography/Alamy

Movies

- Movies
  - Movie piracy is high (illegal copies, recording pre-release movies to create DVDs, etc.)
  - Distributing bootleg copies of movies is illegal and unethical
    - Often happens via the Internet
    - FBI Anti-Piracy Seal is used with movie DVDs, music CDs, and other intellectual properties commonly pirated

FIGURE 16-8
The FBI Anti-Piracy Warning seal.

FBI Anti-Piracy Warning: Unauthorized copying is punishable under federal law.

FBI ANTI-PIRACY WARNING
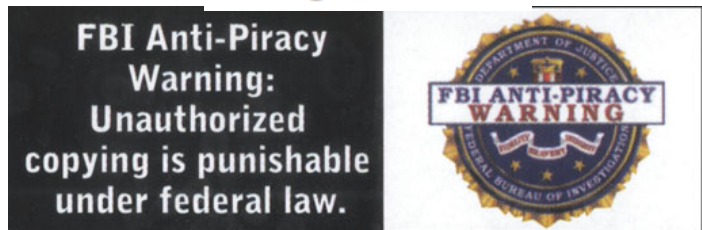
Digitial Rights Management (DRM)

- 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

Resources – Ethical Use

- 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
    - Whistleblowers have some protection under the law

Resume Padding

- Résumé padding is considered unethical by most companies
  - Many companies will terminate employees who were hired based on falsified résumés or applications
  - Other possible consequences include blacklisting from a industry or being sued for breach of contract

Digital Manipulation

- 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
- Recommend exploration of YouTube DeepFake videos

Business Ethics & Reporting

- Ethical Business Practices and Decision Making
  - Fraudulent Reporting and Other Scandalous Activities
    - Sarbanes-Oxley Act of 2002
      - Includes provisions to improve the quality of financial reporting, independent audits, and accounting services for public companies
  - Ethically Questionable Products or Services
    - Decisions regarding selling products or services some individuals find objectionable
    - How, if at all, should businesses that allow users to upload content to their Web sites monitor the content posted

Ethics

- Censoring & Misinformation
- 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

Cultural 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

FIGURE 16-14
Cultural considerations. In some countries, bootleg copies of music CDs and movie DVDs are sold openly, such as this DVD seen recently at a store in China.

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

TILT-AND-SWIVEL MONITOR
Adjusts for a comfortable viewing angle; top of screen should be no higher than 3 inches above the user's eyes.

DOCUMENT HOLDER
Keeps documents close to the monitor so the user does not have to turn his or her head.

PROPER USER POSITION
Sit straight with shoulders back, about 24 inches away from the monitor; keep forearms, wrists, and hands straight; keep forearms and thighs parallel to the floor.

ADJUSTABLE TABLE/DESK
Optimal height is between 25 and 29 inches tall. Keyboard and mouse should be at or just below elbow height; use a keyboard drawer if needed.

FOOTREST
Can be used, if needed, to keep legs properly positioned.

ADJUSTABLE CHAIR
Height is adjustable and has support for the lower back.

FIGURE 16-16
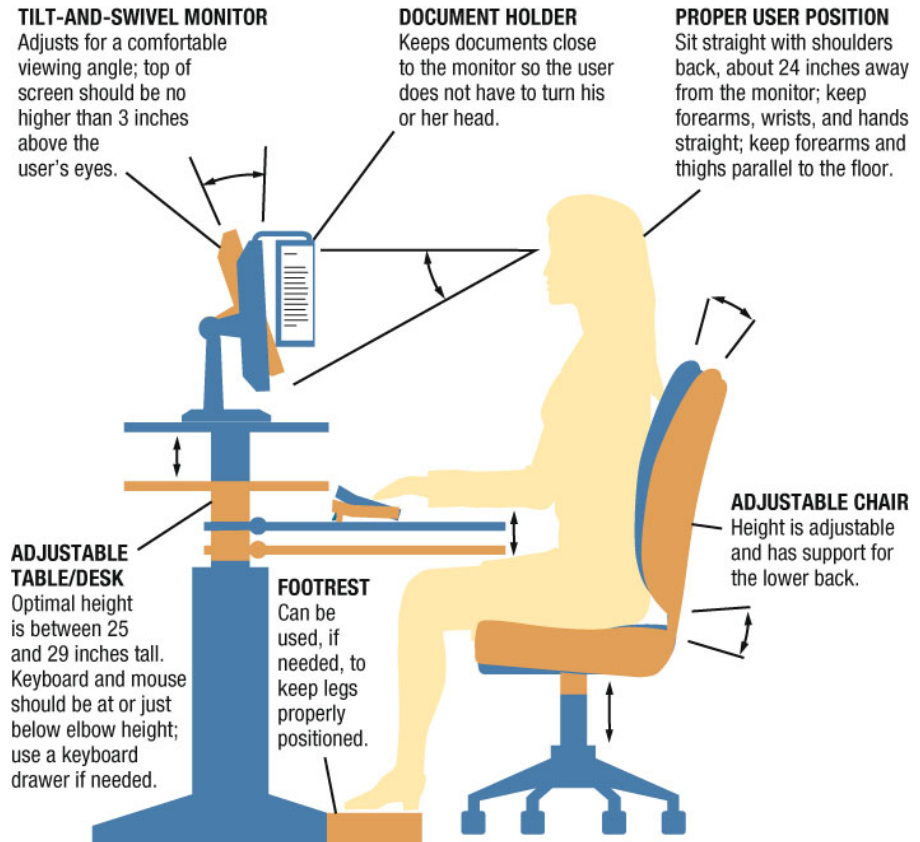Workspace design.

Physical Health

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

Emotional Health

- Emotional Health
  - Stress of Ever-Changing Technology
    - Knowledge of and ability to use technology is becoming a necessity in many jobs
    - Technology changes at a rapid pace
    - Workers must regularly learn new skills which can create stress for many individuals

24/7/365 expectations

– Impact of our 24/7 Society

- Ability to be in touch constantly can be a source of great stress for some people
    - "On call 24/7" and can never get away
    - Hard to relax when on vacation and available 24/7

FIGURE 16-22
Our 24/7 society.
With mobile phones and portable computers, many individuals are available 24/7.

Technology Addiction

- 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

Access to Technology

- The Digital Divide
  - The gap between those who have access to technology and those who don't
  - Can have digital divide within a country, as well as between countries
  - The U.S. Digital Divide
    - Differences in technology use by income, race, geographical area, education, broadband Internet use, etc.
    - Reducing the U.S. digital divide is important to ensure all citizens have an equal chance of being successful
    - Some people choose not to use technology

Assistive Technology

- Assistive Technology
  - Hardware and software designed for use by individuals with physical disabilities
  - Much improvement in assistive technology has occurred in recent years
    - Demand from disabled individuals and disability organizations
    - American with Disabilities Act
      - Requires companies with 15 or more employees to make reasonable accommodations for known physical or mental limitations of otherwise qualified individuals, unless doing so results in undue hardship for the company

Technology Acceptance Model (TAM)

- Assessing Accessibility/Assistive Tech/etc.
- Perceived Ease of Use (PEU)
  - If it is easy/straightforward, users will adopt and use
  - E.g. iPad
- Perceived Usefulness (PU)
  - If it is useful, certain users will adopt regardless of PEU
  - CAD has steep learning curve but professionals will learn and adopt

Green Computing

- 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

Green Computing - Power

- 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
  - Energy-saving tactics
    - Consolidating servers
    - Powering down computers when not in use
    - Using desktop virtualization
    - Using cloud computing

Alternate Power

- 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

Recycling

- 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

Recycling

- Proper recycling is essential
  - Some recycling centers will accept computer equipment
- Many computer manufacturers have voluntary take-back programs
- 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

Summary

- Intellectual Property Rights

- Ethics

- Computers and Health

- Access to Technology

- Environmental Concerns

- Related Legislation