## Professional Practices HU-511(BSCS), HU-601(BSIT)

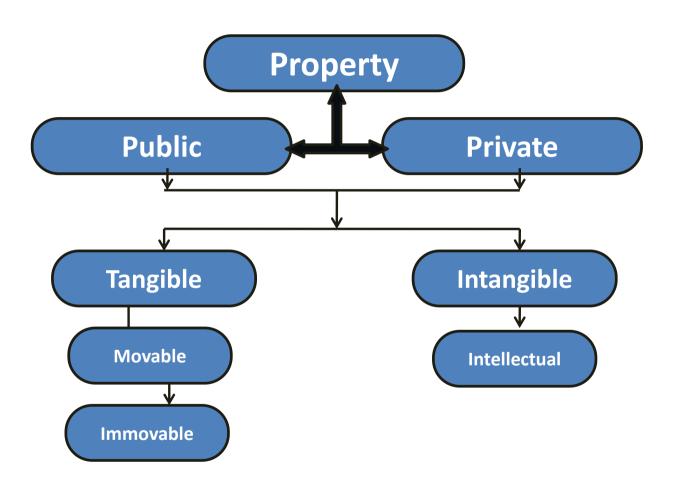
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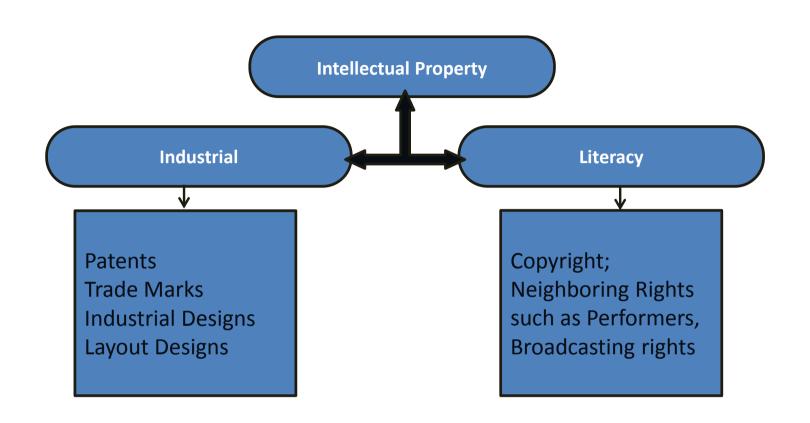
Lecture 2(week 4, 5 & 6)

# Lecture # 2 Intellectual Property Rights and Software Licensing

## Intellectual Property

 Intellectual Property (IP) refers to creation of the mind: inventions, literary and artistic work and symbols, names, images and designs used in commerce.





## **Types of Intellectual Property Rights**

1 copy right 3 trademark

2 patent 4 design

#### Copyright

 Copyright is an automatic right which applies when the work is fixed, that is written or recorded in some way.

#### Patents

- Patents protect what makes things work like what makes a wheel turn or the chemical formula of your favorite fizzy drink.
- Trade marks
- Trade marks are signs (like words and logos) that distinguish goods and services in the marketplace.
- **Designs**
- Designs protect the appearance of a product/logo, from the shape of an aero plane to a fashion item

## **Intellectual Property Rights (IPR) Issues**

- "Rights granted to creators and owners of works that are results of human intellectual creativity".
- These works can be in the industrial, scientific, literary and artistic domain.
- For example, we could publish a book based on someone else's, or pirate software. Things such as software and a story in the book are intangible - they can't be physically stolen - and are called *intellectual property*.

## IPR issues (con't)

- Such creative works and inventions may be valuable because their creators may benefit from selling them or licensing others to use them. Society, therefore, gives the creator intellectual property rights
- Industrial property legislation is part of the wider body of law known as intellectual property.

## **Intellectual Property Rights**

- IPR are like any other property right.
- They allows creators or owners of patents, Trade Marks, copyright to get benefits from their own work or investment in a creation.
- In the world of creativity the rights of the owners of copyright have taken a long duration to be understood.
- IPR is the outcome of hard labour of creative person.
- People thought that they could use and enjoy the writings of an author, the music composer, paintings of an artists freely.
- People did not realized that the author has to be compensated.

### **Need for Protection of IP**

- To protect the intellect property of the creator, so that no body can enjoy the fruits of other's efforts.
  - Patent rights to inventors
  - Registration of designs
  - New logos, marks as Trade marks
  - Literature, cinema, musical records, computer programs, can be registered for their legal protection Copyright
- To achieve the progress of human beings
- Legal protection encourages creativity
- It spurs economic growth nation's growth
- Some intellectual thoughts need to be restricted

## NECESSITY OF INTELLCTUAL PROPERTY RIGHTS PROTECTION

- Intellectual property rights protection is necessary due to following reasons:
  - Encouragement to creativity by ensuring its reward
  - Innovations in technology
  - Transfer of technology to less developed nations and countries of the world

## WORLD INTELLECTUAL PROPERTY ORGANIZATION

• World Intellectual Property Organization (WIPO) was established on July 14, 1967 at Stockholm.

## INTELLECTUAL PROPERTY ESTABLISHMENTS IN PAKISTAN

- All the Intellectual Property Rights laws in Pakistan are being administered and managed by three different ministries of the Federal Government, which are as under:
  - Ministry of Education: the Copyright Ordinance, 1962.

## INTELLECTUAL PROPERTY ESTABLISHMENTS IN PAKISTAN

- Ministry of Industries and production:
  - The Registered Designs Ordinance, 2000.
  - The Registered Layout-Designs of Integrated Circuits Ordinance, 2000.
  - The patents ordinance, 2000.
  - Ministry of Commerce:
    - the Trade Marks Ordinance, 2001.
    - the Merchandise Marks Act, 1889.

## World Intellectual Property Organization-WIPO

- In 1873, "International Exhibition of Inventions" in Vienna. Foreign exhibitors refused to participate.
- This felt the need for protect of IP
- **1886 Paris Convention** was organized for the protection of Industrial property.
  - It was the first treaty designed to help the people of one country to obtain protection in other country for their intellectual creations in the form of industrial property rights
  - It was aimed to obtain international protection of author's right to control and receive payment for their creative work.
  - This convention set up a Bureau called "Bureau for the Protection of Intellectual Property" (BIRPI- French acronym)
  - The name changed as WIPO in 1970 and become specialized agency of UNO in 1974.
  - WIPO has membership of more than 175 countries.
  - WIPONET started in 1998, Jan 21 which provides network infrastructure & services for the information exchange. Derives practical benefits

## Objectives of WIPO

- To harmonize IP legislations and procedures
- To provide services for international application for the industrial property rights
- To exchange IP information
- To provide legal and technical assistance to developing & underdeveloped countries.
- To facilitate the resolution of private intellectual property disputes
- To marshal information technology as a tool for storing, accessing and using valuable IP information

## Intellectual Properties important Terms

- Copy Rights
- Trade Marks
- Patents
- Designs
- Confidential Information (Trade Secret)
- Plagiarism

## Copyright



- People enjoy literary works without compensating the original creator
- 1886 Berne convention was held to protect the literary work.
- USA (1952), USSR (1973)
- Some countries are not aware of Copyright.
- In Pakistan, law is weak
- Copyright is an exclusive right given by the law for a certain term of years to an author, who can be a writer, composer, designer.

## Copyright

- Copyright provides the following rights
  - The right to copy
  - Derivative work
  - Distribution
  - Right to perform the work publicly drama, painting, sound recording
- It is not the idea that the copyright protects
- Idea should fixed in a particular form
  - Author thoughts on story
  - Idea of painting a sunrise
- Copyright commences since the completion of the work as an expression of the idea.

## **Particulars under Copyright**

#### Literary works

- Novels, short stories, poems
- Irrespective of the content (fiction & non-fiction), length, purpose (amusement, education, information, advertisement, propaganda etc), form (published, unpublished, oral)

#### Musical works

 Serious or light, songs, choruses, operas, solos, with few instruments, many (bands, orchestras)

#### Artistic works

2D (drawings, paintings, lithographs, etchings,, 3D (sculptures, architectural works)

## **Particulars under Copyright**

#### Photographic works

 Irrespective of subject matter (portraits, landscapes, current events etc) and purposes

#### Motion pictures

- Whether silent or sound tracks, irrespective of purposes (theatrical exhibition, TV broadcasting) their genre (film, documentaries, newsreels, serials etc), techniques (filming live, cartoons, 3D) technical process used (video tapes, DVD etc)
- **Dramatic work** plays
- Choreographic works
  - ballet, classical or modern
- Computer programs
- Works of applied art
  - Artistic, Jewelry, wallpapers etc. some related to phonograph records etc

## **Copyright infringement**

- **Copyright infringement** is the unauthorized use of works under copyright, infringing the copyright holder's "exclusive rights"
  - Downloading and sharing MP3 files of music, videos and games without permission of the copyright owner.
  - Using corporate logos without permission.
  - Scanning a photograph that has been published and using it without permission or attribution.
  - Placing a number of full-text articles on a course web page and allowing the web page to be accessible to anyone who can access the Internet.
  - Downloading licensed software from non-authorized sites without the permission of the copyright or license holder.
  - Making a movie file or a large segment of a movie available on a web site without permission of the copyright owner

## **Infringement of Copyrights**

- Infringement is the action of breaking the terms of a law or agreement.
- There are two categories of infringement of copyrights
  - Primary infringement
  - Secondary infringement

## **Primary Infringement**

- Anyone who performs any of the six acts that are exclusive for the copyright owner, without his consent is liable for primary infringement of copyrights.
- It can be committed entirely innocently so it is not regulated by criminal law, it infringes only the civil rights of the owner.

## **Primary Infringement**

- Actions that comes under the category of primary infringement are
  - Copying
  - Home taping
  - Adaptation
  - Rental right

## **Secondary Infringement**

- Beside breaching the civil rights of a copyright owner, secondary infringement also accounts to a criminal offence punishable by a fine or imprisonment.
- It is designed to catch those who trade in and make profit from pirated goods.

## **Secondary Infringement**

- It occurs when a person
  - Imports an infringing copy other than for private and domestic use
  - Possess an infringing copy in the course of a business
  - Sells or let for hire an infringing copy
  - Transmits the work by mean of a telecommunication system
  - Involves in indirect infringement.

### THE COPYRIGHT ORDINANCE 1962

 Any person violating the said ordinance shall be punishable with imprisonment which may extend to 3 years or with fine which may extend to 100,000 rupees- or with both.

## **Plagiarism**

- The practice of taking someone else's work or ideas and passing them off as one's own.
- This is the major issue in scientific publications/scholarly publication.
- How to avoid it?

## Published by ATLANTIC PUBLISHERS AND DISTRIBUTORS B-2, Vishal Enclave, New Delhi - 27 Phone: 5413460

Sales office 4215/1, Ansari Road, Darya Ganj New Delhi - 110002 Phone: 3273880

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#### **Quick Help**

Declaration func copyrightExample()

Description An example of using the copyright field

#### Copyright:

Copyright © 1215 by The Group of Barrons

Declared In MyClass.swift

#### Copyright

Copyright © 2001 Sames J. O'Mahoney All Rights Reserved

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ISBN 123-0-4567890-1-2 (eBook) ISBN 978-0-4567890-3-4 (Paperback)

### Trade Mark



- A trademark, trade mark, or trade-mark is a recognizable sign, design, or expression which identifies products or services of a particular source from those of others, although trademarks used to identify services are usually called service marks.
- The trademark owner can be an individual, business organization, or any legal entity.
- A trademark may be located on a package, a label, a voucher, or on the product itself.
- For the sake of corporate identity, trademarks are often displayed on company buildings.

### **Trade Marks**

- Any sign which is capable of distinguishing the goods and services of one trader from those of another
- Trade Marks are used to distinguish products and services
- Trade Mark can be:
  - Word
  - Logo
  - Sound
  - Smell

### **Trade Marks**

- Serves to establish goodwill and reputation in a product or service
- Adds value to a company
- Guinness €2 Billion
- Coca-Cola Interbrand Value \$79.1 Billion (€61.3 Billion)
- A good Trade Mark will be:
  - Not descriptive of product
  - Distinctive





## Some Well Known Trade Marks



# R McDonald's invent

### Trademark vs service mark

- A service mark (or servicemark) is a word, phrase, symbol or logo that is used to brand, identify, and distinguish a *service*.
- This is in contrast to a <u>trademark</u>, which is a word, phrase, symbol or logo that is used to brand, identify, and distinguish a *product*.
- A restaurant or retail store might deal in physical items, but they actually require service marks. McDonald's is a registered service mark for restaurant services. Similarly, Walmart is a registered service mark for retail store services.
- In contrast, if you sold a line of jewelry products or clothing products, then you would want to get a trademark for your product line. Tiffany & Co is a registered trademark for a line of jewelry products, and Nike is a registered trademark for a line of footwear and clothing products.

# THE TRADEMARKS ORDINANCE, 2001

- A trade mark may be registered in accordance with the provisions of this ordinance in respect of:
  - -goods
  - -services or
  - both goods and services,

## Registered Designs

- Protects aesthetic appearance not the underlying idea.
- Shape or appearance including surface decoration
- Registered Design refers to the configuration, pattern, or ornamentation which when applied to a product gives the product a unique appearance.
- You can register a design but it must be new and distinctive.





### **Patents**



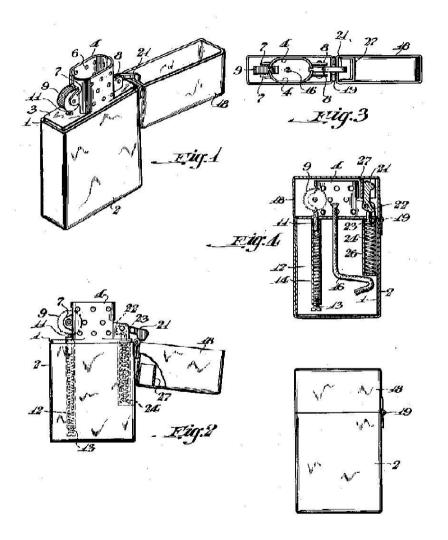
- A patent is a form of right granted by the government to an inventor, giving the owner the right to exclude others from making, using, selling, offering to sell, and importing an invention for a limited period of time, in exchange for the public disclosure of the invention.
- An invention is a solution to a specific technological problem, which may be a product or a process and generally has to fulfil three main requirements:
  - It has to be new
  - not obvious (Which you cant imagine)
  - there needs to be an industrial applicability

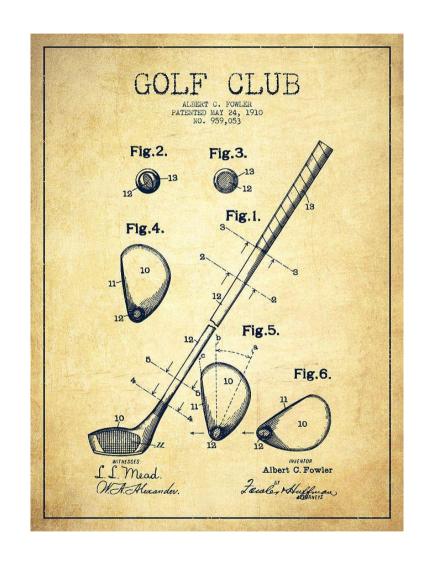
### **Patents**

- Patents granted for ideas and inventions
- A state granted monopoly lasts up to 20 years
- Rewards and encourages research and innovation
- Prevents unauthorised exploitation of ideas or inventions
- Under the World Trade Organization's (WTO) TRIPS(The Agreement on Trade-Related Aspects of Intellectual Property Rights) Agreement, patents should be available in WTO member states for any invention, in all fields of technology, provided they are new, involve an inventive step, and are capable of industrial application.

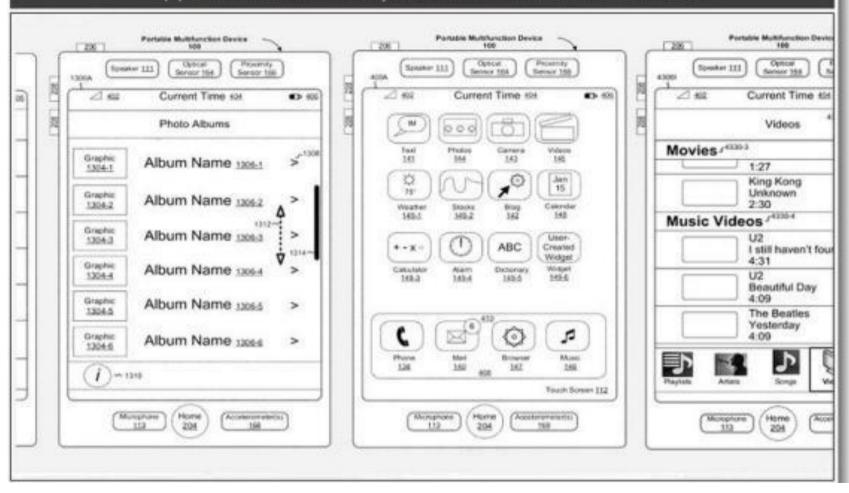
## How to get Patent?

- Patents are not granted merely by filing an application
- Application is examined by the Patent Office
- Strict requirements
  - Absolute Novelty no prior public disclosure
  - Not an obvious solution to the problem the invention overcomes
- Application Contains Specification





### Apple Wins another Major iPhone & iOS Interface Patent



## **Confidential Information (Trade Secret)**

- Can protect company "know how"
- An alternative to patenting?
  - Retain the "secret step"
  - No public disclosure required
  - But! No protection against independent creation by 3<sup>rd</sup> party

## Example of Trade Secret

Google's Web Searching Algorithm.



Comparison

|                                 | Copyright   | Patents  | Trade Mark  |
|---------------------------------|---|--|---|
| What's Protected?               | Original works of authorship, such as books, articles, songs, photographs, sculptures, choreography, sound recordings, motion pictures, and other works | Inventions, such as processes, machines, manufactures, compositions of matter as well as improvements to these | Any word, phrase, symbol, and/or design that identifies and distinguishes the source of the goods of one party from those of others                                 |
| Requirements to be<br>Protected | A work must be original, creative and fixed in a tangible medium  | An invention must be new, useful and nonobvious  | A mark must be distinctive (i.e., that is, it must be capable of identifying the source of a particular good)   |
| Term of Protection              | Author's life plus 70 more years  | 20 years   | For as long as the mark is used in commerce   |
| Rights Granted                  | Right to control the reproduction, making of derivative works, distribution and public performance and display of the copyrighted works                 | Right to prevent others<br>from making, selling<br>using or importing the<br>patented invention                | Right to use the mark and to prevent others from using similar marks in a way that would cause a likelihood-of-confusion about the origin of the goods or services. |

## Why protect industrial designs?

- Industrial designs are what make an article attractive and appealing; hence, they add to the commercial value of a product and increase its marketability.
- When an industrial design is protected, the **owner** the person or entity that has registered the design is assured an exclusive right against **unauthorized copying or imitation of the design** by third parties. This helps to ensure a fair return on investment.

## Importance of Industrial Designs

- Protecting industrial designs helps economic development, by encouraging creativity in the industrial and manufacturing sectors, as well as in traditional arts and crafts.
- They contribute to the expansion of commercial activities and the export of national products.

## How can industrial designs be protected?

- In most countries, an industrial design must be registered in order to be protected under industrial design law. As a general rule, to be registry-able, the design must be "new" or "original".
- Different countries have varying definitions of such terms, as well as variations in the registration process itself. Generally, "new" means that no identical or very similar design is known to have existed before.
- Once a design is registered, a registration certificate is issued.
- Following that, the term of protection is generally five years, with the possibility of further periods of renewal up to, in most cases, 15 years.

## **Protection of Industrial Designs**

- Depending on the particular national law and the kind of design, an industrial design may also be protected as a work of art under copyright law.
- In some countries, industrial design and copyright protection can exist concurrently.
- Industrial Design protected under the "Hague Agreement Concerning the International Deposit of Industrial Designs"

## Dealing with copyright and originality

### Laws on Copyright

- Currently, copyright law in the UK is governed by the Copyright,
   Designs and Patents Act 1988 (the Act).
  - Part I of the Act deals with copyright law. It has been subject to various amendments and the latest amendments of October 2003 were aimed at bringing the Act in line with the EU Directive on Copyright and Related Rights in the Information Society (EU Copyright Directive) 2001 and the challenges posed by the Internet.
- The UK being a member of various international conventions and treaties on copyright law, the Act was also amended at various occasions to harmonize it with the provisions of international treaties.

## Works protected by Copyright

- The types of copyright works are broadly categorized into:
  - original literary, dramatic, artistic or musical works,
  - sound recordings, films or broadcasts and
  - the typographical arrangement of published editions.
- Literary work also includes
- (a) a table or compilation other than a database,
- (b) a computer program,
- (c) preparatory design material for a computer program and
- (d) a database.

## Infringement of Copyright

- When is a work infringed? Copyright is said to be infringed when one of the exclusive rights of an author is performed by a party without the consent or authorization of the author. This infringement is called primary infringement.
- Providing accessories for infringing the exclusive rights or assisting in the making or distribution of infringing copies is also treated as an infringement and is referred to as secondary infringement.

# Infringement of Copyright (con't)

 Making temporary copies: Browsing of the Internet creates temporary copies of web pages on the cache of a computer. Until 2003, such temporary copies were considered as infringing copies.

## **Exceptions to Copyright Infringement**

- "It permits the use of copyright works for situations considered as 'fair', if permitted by a license, or if permitted under a right holders guidance or notice".
- Research or private study: Research or private study is not collective but are individual acts.
- The current UK copyright law permits copying of works for research or private study only if it is aimed at a non-commercial purpose.
- The law also requires that sufficient acknowledgment be given to the copied source when used in research or private study.

## **Exceptions to Copyright Infringement (con't)**

- Educational purposes: Fair dealing with copyright works in the educational environment is permitted if the source is acknowledged, not done through reprographic means (e.g. multiple photocopying, faxing, scanning) and not aimed at a commercial purpose.
- The law also covers the recording of web broadcasts by educational establishments. Primarily, to record a transmitted broadcast the institutes would need an ERA licence. In the absence of such a licence, the institutes can make use of the broadcast only if it acknowledges recording of the data or uses it for non-commercial purposes and transmits it only to persons within the premises of the educational establishment.
- In practice, this can prevent the commercial institutes (without ERA) from recording and re-broadcasting content through e-transmissions for distance learning purposes on internet or an intranet.

# **Exceptions to Copyright Infringement (con't)**

- **Library uses:** The making of copies from books in libraries by its users (staff or students) is fair dealing only if it is made for research or private study for non-commercial purposes. This would require the user to sign a copyright declaration form confirming that the use is purely non-commercial prior to making a request.
- Criticism and review: Fair dealing for criticism and review is permitted under the new law only if it is accompanied by sufficient acknowledgement and the work is made available to the public.

## **Exceptions to Copyright Infringement (con't)**

- Visually impaired people: The new law has created special exceptions for visually impaired people. A visually impaired person or any institute may make copies for a visually impaired person if it is for his/her personal use.
- An additional exception that caters to visually impaired persons allows the making of multiple copies if the author of the work is acknowledged and if the making of the copy does not interfere with the legitimate exploitation of the work.

## **Software Protection**

- There are essentially four types of intellectual property rights relevant to software:
  - Patents
  - Copyrights
  - trade secrets
  - Trademarks
- Each affords a different type of legal protection.
  - Patents, copyrights and trade secrets can be used to protect the technology itself.
  - Trademarks do not protect technology, but the names or symbols used to distinguish a product in the marketplace.

## Software License

- A **software license** is a legal instrument (usually by way of contract law, with or without printed material) governing the use or redistribution of software.
- Under United States copyright law all software is copyright protected, in source code as also object code form.
- The only exception is software in the public domain.
- A typical software license grants the licensee, typically an enduser, permission to use one or more copies of software in ways where such a use would otherwise potentially constitute copyright infringement of the software owner's exclusive rights under copyright law.

## Software Rights in Copyrights

### Rights in Copyright



Free and Open Source Software(FOSS) relinquish(give up, leave)

# Types of Software Licenses 1/3

#### Proprietary License

- Most software licenses are "proprietary" licenses, meaning the software publisher grants a license to use one or more copies of software, but that ownership of those copies remains with the software publisher. The user must accept the license before they are permitted to use the software.
- GNU General Public License copyleft license with four freedoms for users, to run, study, share and modify
  - These are agreements under which much "open source" software is licensed. End users may do things like change the source code, but any refinements of the software must also be made available under a GNU GPL license. Often referred to as "free, copyleft" licenses, the software may or may not be distributed for a fee "free" refers to the ability of users to change and distribute modifications of the software, not to cost. See the GNU General Public License web page for more information.

#### End User License Agreement (EULA)

Also called "clickwraps" or "shrinkwraps," EULAS indicate the terms under which the end-user may use
the software. Agreements with organizations or companies often take the form of contracts between
the organization and the software publisher or vendor, and specify the terms of use for all users from
the organization, superseding any EULAs which may come with the software.

## Types of Software Licenses 2/3

#### Workstation licenses

These are licenses that permit the installation of an application on a single computer. You may not install the software on more than one machine unless you purchase a license for each additional machine. Most workstation license agreements allow you to make a single backup copy of the software as long as that backup copy is used only to restore the software onto the same machine, or a separate machine if the software is removed from the original computer.

#### Concurrent use license

These are licenses that permit you to install the software onto multiple machines as long as the number of computers using the software at the same time does not exceed the number of licenses which you have purchased. Concurrent use licenses are usually used in conjunction with "license manager" software that prevents the number of licenses from being exceeded. At UNCG, ITS uses <a href="KeyServer">KeyServer</a> software that monitors and controls the use of concurrent use licensed software.

#### Site licenses

A site license permits the use of software on any computer at a specified site. Unlimited site licenses allow the installation of software on any number of computers as long as those computers are located at the specified site. Some site licenses permit the installation on computers owned by a particular entity (such as a university) regardless of the physical location. Some vendors refer to their licenses as site licenses but restrict the number of computers on which the software may be installed. The only way to know for sure is to read the license specifics.

# Types of Software Licenses 3/3

#### Perpetual licenses

These are licenses without expiration dates, which permit use of the software indefinitely, without requiring a recurring fee for continued use. Most software that individuals buy for use on their home computers are perpetual licenses.

#### Non-perpetual licenses

These are licenses that "lease" the software for use for a specified period of time, usually annually or sometimes bi-annually. Users are required to remove the software from their computer if they cease paying the license fee.

#### License with Maintenance

Some license agreements allow the user to purchase "maintenance" or "software assurance" along with the original license fee, which entitles the user to receive new versions of the software for one to two years until the maintenance agreement expires.

- Software Piracy
   The unauthorized copying of software. Most retail programs are licensed for use at just one computer site or for use by only one user at any time.
- By buying the software, you become a *licensed user* rather than an owner (see EULA). You are allowed to make copies of the program for backup purposes, but it is against the law to give copies to friends and colleagues.
- Software piracy is all but impossible to stop, although software companies are launching more and more lawsuits against major infractors. Originally, software companies tried to stop software piracy by copy-protecting their software.
- This strategy failed, however, because it was inconvenient for users and was not 100 percent foolproof.
- Most software now requires some sort of registration, which may discourage would-be pirates, but doesn't really stop software piracy.

## Software Piracy Law in Pakistan

### The Law Says:

- "that is to say programmers recorded on any disc, tape, perforated media or other information storage devices, which, if fed into or located in a computer or computer based equipment is capable of reproducing any information".
- In event of infringement, civil and/or criminal proceedings can be carried out. According to Chapter XIV of Copyright Ordinance, a person can face a prison of up to 3 years and/or a penalty of up to one hundred thousand rupees if he is found guilty of renting computer software without permission of the owner.
- According to a study of Business Software Alliance, 84% of software in Pakistan is being used in violation of the Copyright law of Pakistan.

## Exception to Copyright infringement (Fair Use

- **Fair use** is a doctrine originating in the law of the United States that permits limited use of copyrighted material without having to first acquire permission from the copyright holder.
- Fair use is one of the limitations to copyright intended to balance the
  interests of copyright holders with the public interest in the wider distribution
  and use of creative works by allowing certain limited uses that might
  otherwise be considered infringement.
- Examples of fair use in United States copyright law include commentary, search engines, criticism, parody, news reporting, research, and scholarship.

## **Electronic Publishing**

- Electronic publishing (also referred to as e-publishing or digital publishing or online publishing) includes the digital publication of ebooks, digital magazines, and the development of digital libraries and catalogues.
- E-Media
  - Internet
    - Blog
    - Online Newspaper/Magazine
    - Podcast
  - CD/DVD
  - Floppy
  - Memory card
  - Flash Drive

#### Software Protection

 a method of preventing users of a computer program from making unauthorized copies, usu. through hidden instructions contained in the program code.

## S/W Piracy

 Software piracy is a term that is frequently used to describe the copying or use of computer software in violation of its license (commonly referred to as an end user licensing agreement or EULA)

## S/W ownership

• The owner of the software remains the person or entity that holds the <u>copyright</u>, giving them the sole legal authority power to sell, distribute, copy and/or change the content of the software. And unless the person or organization transfers ownership rights, the rights remain with the owner no matter how many times the owner legally distributes the software

## Assignment

- Copyright problems posed by Electronic publishing
- Give review of "the little book of plagiarism" published by HEC, and How to avoid plagiarism?